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[*For continuation of "Analysis of Advertisements" see page* lxxv.]

"THE DU BOIS TRAP"
(Regd.)

Hydraulically Drawn

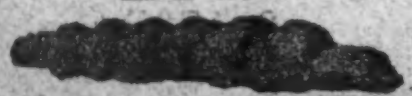
LEAD TRAPS BENDS OFFSETS

Specify DU BOIS TRAPS with EXTENDED OUTLETS—ONE PIECE from basin to gully.

ANY ANGLE. ANY LENGTH.

Only traps bearing stamp "THE DU BOIS TRAP" genuine.

LEAD YARN



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THE DU BOIS COMPANY, LIMITED

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BUILDERS' AND ENGINEERS' MERCHANTS ONLY SUPPLIED.

THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

VOL. CXXVI.—No. 4225. JANUARY 25, 1924.

VARIATIONS ON AN OLD THEME.

"Towns should be made to house a proud and intelligent race of people, and we have to see to it that they are thought of and dealt with from that point of view."—W. R. LETHABY.

WE gather from a recent meeting of advertisers that advertising is only in its infancy in this country. We are told that we are shy of advertising here; that shyness is our national characteristic and that America is far ahead of us in salesmanship. In the coming year the leading representatives of the advertising world who are attending the International Advertising Convention will be given an opportunity of seeing English life from all "angles." This ugly word is well chosen. The tendency during the last few years has been to examine every problem from an angle—the modern substitute for perspective, we suppose. Philosophy was simpler when we recognised only two sides, our own and the wrong one.

The problem of advertising is much too complicated to examine in detail, particularly from an ethical point of view; and from the architect's standpoint we are interested not so much in the amount of advertising as in the form it takes. Mr. Aldous Huxley discusses advertising from the literary point of view. As a form of literature he prefers to speak of it as "applied literature" for the sake of those who still believe in the "romantic superiority of the pure, the disinterested, over the immediately useful." "No one should be allowed," he says, "to talk about the *mot juste* or the polishing of style who has not tried his hand at writing an advertisement of something which the public does not want, but which it must be persuaded into buying." Without going into the matter in detail it is evident there is ample room for further discussion upon the relationship of commercial values to their architectural expressions.

The architectural mind immediately begins to think of advertising in relation to buildings. Huge gilt signs by day and twinkling sky-signs by night, have reduced the architect to a state in which he begins to wonder whether his building is to become merely a background for advertisements. It cannot be said truthfully that some of the older buildings suffer very much architecturally at the hands of the sign-writer, though we are fully aware of the danger of admitting an argument based upon the theory that the finer the architecture the more it will suffer from the advertiser. It is possible to contend that advertisements make an ugly building more hideous. The thought is painful we admit, but it is certain that if the given problem for the architect were to design a building as a background for advertisements the results would not be so disturbing as those we have to tolerate now. The other alternative is that the building shall be vested with architectural dignity and individuality, that the happy owner will appreciate it so much that he will consider his building to be sufficient advertisement in itself.

Already we can hear the murmuring protests of those who believe that fine architecture is to be traduced for advertising purposes. Many architects feel that importance is being given to utilitarian buildings, which is not wholly in keeping with the case. This may or may not be sound architectural philosophy, and the public, at least, could claim to see some clear-cut definition of what architects do approve. We have discussed this question several times, and here we can leave it, in the hope that a better understanding will come as the years go on. In the march of civilisation we may lose a certain illusion, but it is a true observation which says that we seldom fail to find another. If it is a question of ideals, architecture most go down with its flag nailed to the mast; but if we ventured to prophesy we would say it is fairly certain it will not go down. The philosophic doubt may be there, and if architects do not reason it out the constant pressure of any social development compels them to recognise it ultimately. There is a strong feeling that architecture must be indicative of the age in which we live, and if this is true it should always produce the best results that can be obtained in the circumstances. The history of architecture is proof of this contention, and we would like to see modern architecture taking its proud position, not as a vehicle for the publicity agent, but as a structural work of art carrying its own direct appeal so unmistakably that the owner would think twice before listening to the arguments of the sales expert. We are convinced that architects would make greater headway with the public if they attempted to analyse the psychological difference lying between the client's attitude and their own. It is not a question of being interested, and neither is it a question of right or wrong. When views upon art become dogmas we have lost the corrective value of seeing realities as they are.

There are only two solutions we can see to the problem of advertising on buildings: either architects must make an eloquent plea in their buildings for the social recognition of the value of their work, or, failing this, we must lay the responsibility upon legislation to protect us and lead us to a nobler conception of civilisation. We look to the general development of education for a remedy; we educate architects and artists, then we lose our courage and fail to deal with the problems which our own day brings to us. And the answer is that as a nation we seem to be fully alive to the value of the arts as a social factor; we believe that fine buildings and fine pictures add to the nobility of life, but we seem powerless to deal with the narrow view of life which makes so much ugliness possible.

Legislation against ugliness is a quicker process, we are told, than waiting for education to raise the standard of taste and affect public opinion, but the philosopher will tell us that legislation on these lines would indicate that we had received our education. The whole problem is a direct challenge to us to think clearly on the subject, and to face the results of our thinking. Who knows? We may eventually reach the stage when we shall cease to advertise by regarding the hoarding as a public nuisance and placing it where it is least likely to be seen.

Professor Lethaby tells us that, "the faces of buildings, which are turned outwards towards the world, are obviously of interest to the public, and all citizens have a property in them. The spectator is in fact part owner." The enterprising publicity agent threatens to give this paragraph a new meaning.

NOTES.

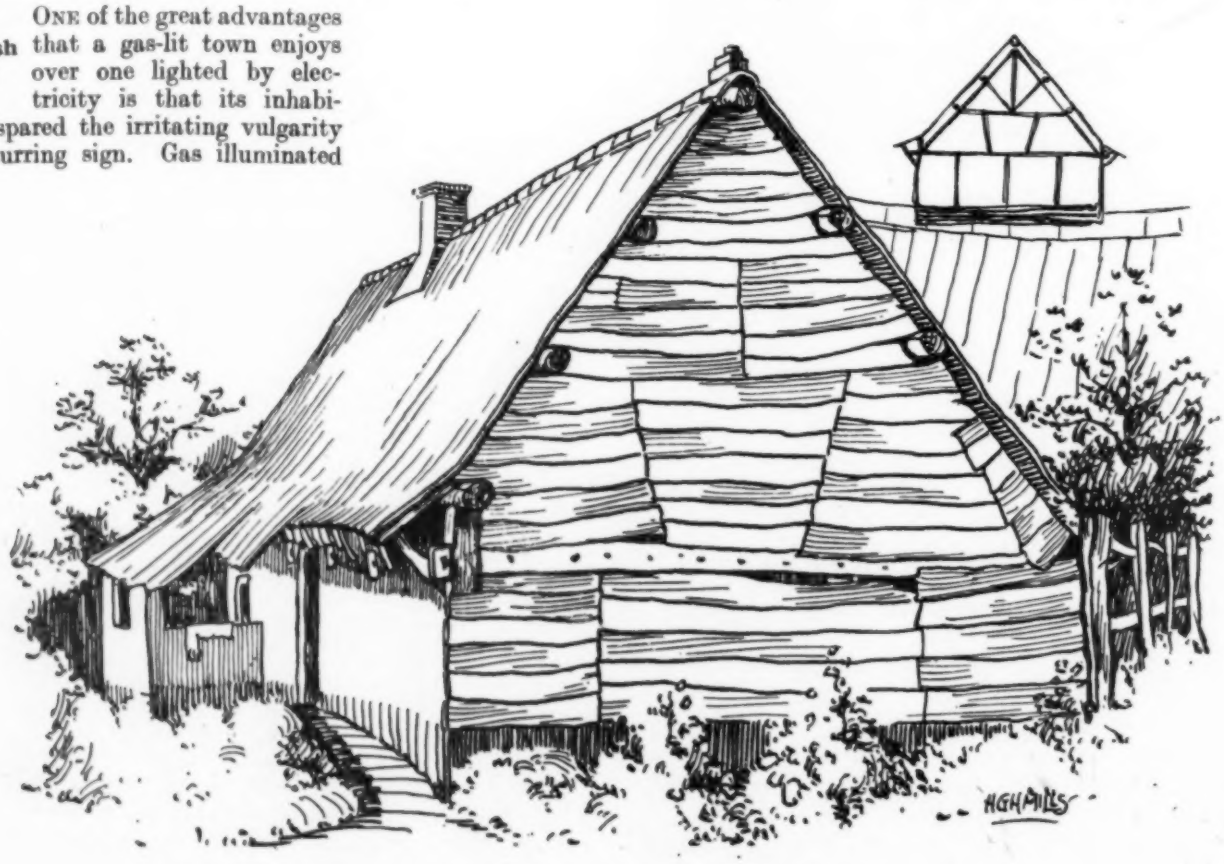
Ugly Hoardings. WHEN once a reform movement is set going, especially one so beneficial to communal life as the tidying up of our streets and countryside, it accelerates on itself, so that we are hardly surprised to read that the London County Council is now asking the Borough Councils to make the fullest use of their powers to secure the removal of advertisement hoardings on the roadside. All this is most satisfactory, and we may hope for a more becoming appearance in our roads and streets. But we should be wise to accompany our satisfaction at this promise of better things with a certain caution. Very few of these desirable improvements have as yet been carried out, though in course of being so, and it will require a certain doggedness of public pressure to get rid of many of the more unsightly features of advertising. If we were led to expect, as the result of what is being effected, that the matter could be allowed to rest, or that it will accomplish itself on what may be only a temporary wave of reforming zeal, we should ignore many untoward influences which remain antagonistic to change. On the other hand, we welcome the evidence of an awakening of civic pride, and a conforming of trade interests to the general welfare in response to the strongly declared expression of public opinion on the matter.

Gas' Flash Signs. ONE of the great advantages that a gas-lit town enjoys over one lighted by electricity is that its inhabitants are spared the irritating vulgarity of the recurring sign. Gas illuminated signs have in the past been obliged to content themselves with delivering their messages in a straightforward and permanent manner. We understand that gas is now in a position to vie with electricity in flashing at intervals, and we may well be confronted with a more universal spread of blinking lights than exists at present. Sooner or later those that employ these methods of self-assertion will find themselves forced to emulate the action of the motor spirit firms and bow to a public opinion whose patience in seeing our towns disfigured is not inexhaustible.

Landlord's Fixtures. THE limited fittings of the pre-war house are in process of revolution, and it will be interesting to see how far the movement towards elaborate fixtures spreads. Undoubtedly the initial capital outlay involved by fitted cupboards, lockers, hot-water basins, sinks and radiators adds enormously to the original purchase price, but, provided the intending occupier has little furniture of his own, the subsequent economy will repay him. In America, where the great distances militate against the familiar "removals" of this country, the elaborate fittings are an institution, but we doubt if they are coming here to quite the same extent. We all like our household goods, especially if they have family associations, and while the present movement will certainly affect the production of cheap modern furniture, people will still hesitate to part with their individual and portable possessions in exchange for what is permanent and standardised.

Panaceas. WITH every political crisis affecting the housing situation we have the usual crop of crank solutions; and, while any effort that emphasises the importance of the housing shortage may be of value, the assumption that there is any single panacea to solve our troubles is misleading and mischievous. Indeed, if we were at once to surmount such obstacles as trust-rings, "ca' canny," and trade-union restrictions; if we could be quit of hampering by-laws; obtain easy money, cheap land and ready transport; if we could also employ standardised construction, and ideal planning, we should still have to face a long uphill journey with no royal road to the top. Let us again repeat that nothing but hard work and general co-operation can form a basis for a policy, and that however welcome the enthusiastic amateur may be he has much to learn before he can instruct in a complex situation that has defied the ingenuity of many experts.

Rebuilding in Ireland. FROM accounts in the papers it would appear that an advance has already been made to cope with the devastation caused in Dublin by the tragedies of the last few years. Apart from town-planning schemes, activities



Sketch in Northern France.—No. 3. By MR. H. G. H. MILLS. (*See p.* 144.)

An example of French-Canadian Domestic Architecture. (*See p.* 142).

have begun to replace shops, hotels, and public buildings in Dublin and Cork, but it would be interesting to learn how far the reconstruction has spread to private buildings. It is natural that delays in fixing and obtaining awards should have kept things back, and owners of country mansions are naturally not in a hurry to re-erect their homes until an assured peaceful prospect is in sight. Given settled conditions we hope that restoration and rebuilding, even of a partial nature, may be undertaken and that the peculiar quality of the fine Irish country house will be maintained.

The Coke Shortage.

NOTHING has been more baffling or discouraging to the householder who has installed a smokeless heating system dependent on a coke stove than the laconic notices which certain local gas companies have recently circulated. Briefly, these companies regret that owing to the present railway strike they cannot undertake to execute further deliveries of coke. The most effective appeal that the gas companies can make to the public is their help in overcoming the smoke plague, either directly by gas heating or indirectly by the use of the smokeless by-product of coke. It is not a sufficient excuse to claim that better and cheaper gas is obtained as the coke gets poorer and dearer; the by-product is as valuable to the community as the gas is to the company, and the companies are equally responsible for this essential supply. If the public is to submit to these periodical withholdings it will re-establish the open coal fire, the anti-smoke movement will be set back, and the gas companies will be the first to suffer.

Modern Taste.

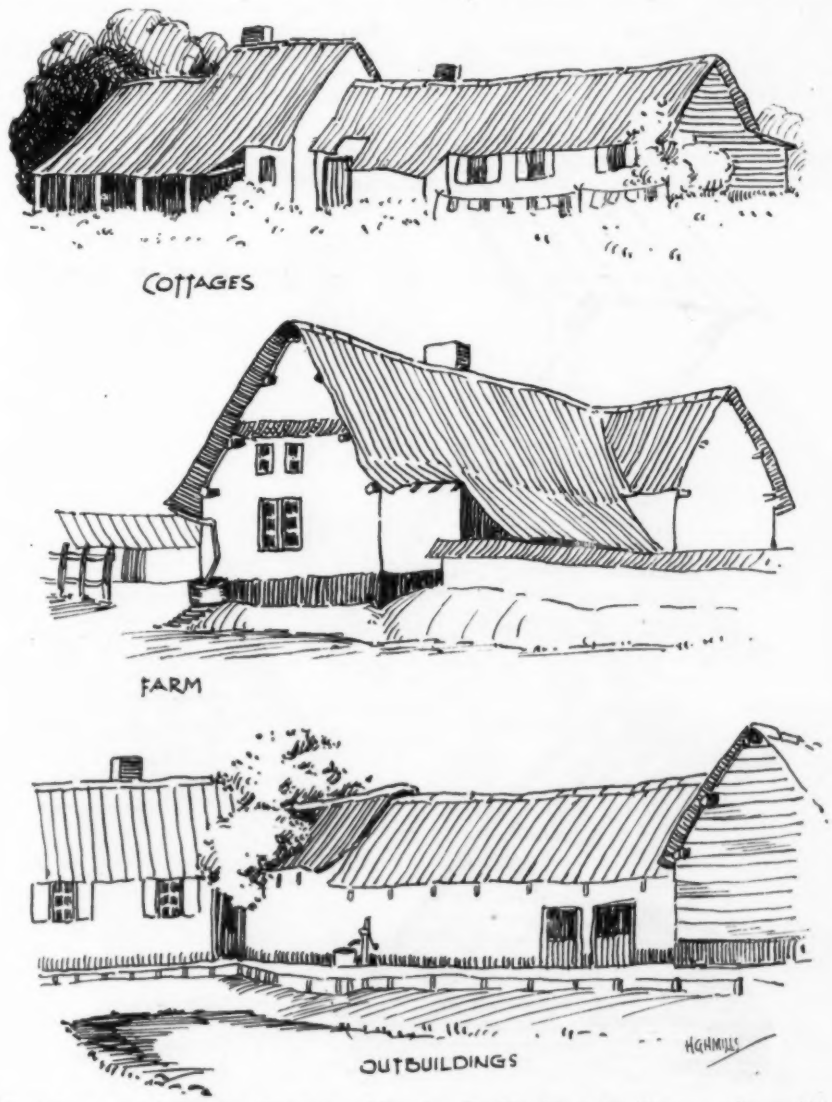
THE series of articles on the great picture galleries, which Mr. E. V. Lucas has contributed to *The Times*, is not only intensely informing, but must have a valuable reflection on our own taste. Few of us possess important original works; at the best we muster some creditable sketches, a few dearly-prized etchings, some attractive old prints (whose authenticity is probably doubtful), and apart from these we are wise if we leave our walls bare or adorn them with good reproductions. Unfortunately for the architect and the house decorator the average taste is neither wise nor fastidious, and there exists a zeal for covering wall-space that would do justice to a missionary desiring to clothe a converted cannibal. Almost every second house is desecrated with badly framed, ill-hung and ill-executed pictures, distracting both in their lack of purpose and their lack of relation to one another. The familiar defence that the owner is entitled to his own likes in his own house may be legally true, but there is an increasing sense of responsibility for artistic values which will make such efflorescence unfashionable, and as a contribution to that end Mr. Lucas's articles deserve our praise.

House Purchasing.

WE noted a comment the other day in a weekly paper upon the fact that only eighteen copies of "A Guide to House Purchasers" had been sold. It was suggested that the difficulty of finding a house in these days would have assured a large sale for such a book, and that there was nothing more difficult than to determine what the public really wants. We should have thought the public has small need of a guide book on this subject; it is much more interested in trying to avoid purchasing houses. Besides, there are many other more fascinating luxuries in which we are interested. The nation is still absorbed in the fascinating game of compelling itself to build and rent houses at a loss, in the happy belief that there can be neither losses nor penalties when they are shared. Happier still is the individual who believes they are shared equally.

Early Stained Glass.

THE collection of ancient stained glass at the Victoria and Albert Museum is continually being strengthened by further additions, under the appreciative direction of Mr. Bernard Rackham. This collection is already full of instruction for the student of glass, containing many delightful examples. The Swiss Minister, M. C. R. Paravicini, has now lent to the Museum seven panels of early stained glass, which are exhibited on the stairway leading from Room 131 to Room 112 on the first floor. Some of these panels are of the Salzburg School, others rare and early Swiss work.



Sketches in Northern France.—No. 1. By MR. H. G. H. MILLS. (*See p.* 144.)

GENERAL NEWS.

Professional Announcement.

Mr. James Burford, A.R.I.B.A., has opened an office for the practice of architecture at 3, Staple-inn, Holborn Bars, London, W.C. 1. Telephone, Holborn 1870.

Architect's Estate.

Mr, Ernest Flint, F.R.I.B.A., of Crouch End, and of 80, Coleman-street, E.C., architect and surveyor left estate valued at £16,700 (net personality, £16,481).

Employment in the Building Industry.

According to the current issue of the "Ministry of Labour Gazette," employment with skilled operatives during December (except painters) was fairly good in the building trade.

Hastings Music Pavilion.

The Hastings Corporation has accepted the tender of a Nottingham firm for the building of the new music pavilion on the site of the old East Sussex Hospital, at a cost of £60,930.

Incorporated Church Building Society.

At the monthly meeting of this society grants were made towards building new churches at Ashby, S. Paul, Lincs., £300; and Crosby, S. George, Lincs., £300.

Singapore Post Office.

The contract for the new post office at Singapore, valued at £500,000, has gone to Perry & Co. (Bow), Ltd. It will involve a large expenditure in the United Kingdom for reinforced work.

Obituary.

The death occurred on January 9 of Mr. Edwin Rutherford, aged 47, a well-known Durham architect. During the war he served with the Royal Engineers.

The death occurred, on January 12, at Treforest, of Mr. Frederick Gibson, architect and surveyor, Pontypridd.

Fulham Schemes.

Colonel Vaughan-Morgan, M.P., at a meeting recently convened by the Mayor of Fulham, put forward a scheme that Cheyne-walk, Chelsea Embankment, should be extended to run right through to Fulham. Another proposal was for the use of the Earl's Court Exhibition grounds, a letter being read from the freeholders of the property, the District Railway Company, stating that it was not their intention ever to use the grounds for an exhibition site. A committee was formed to devise schemes and to canvass employers in order to provide employment.

Building Surveyors' Association.

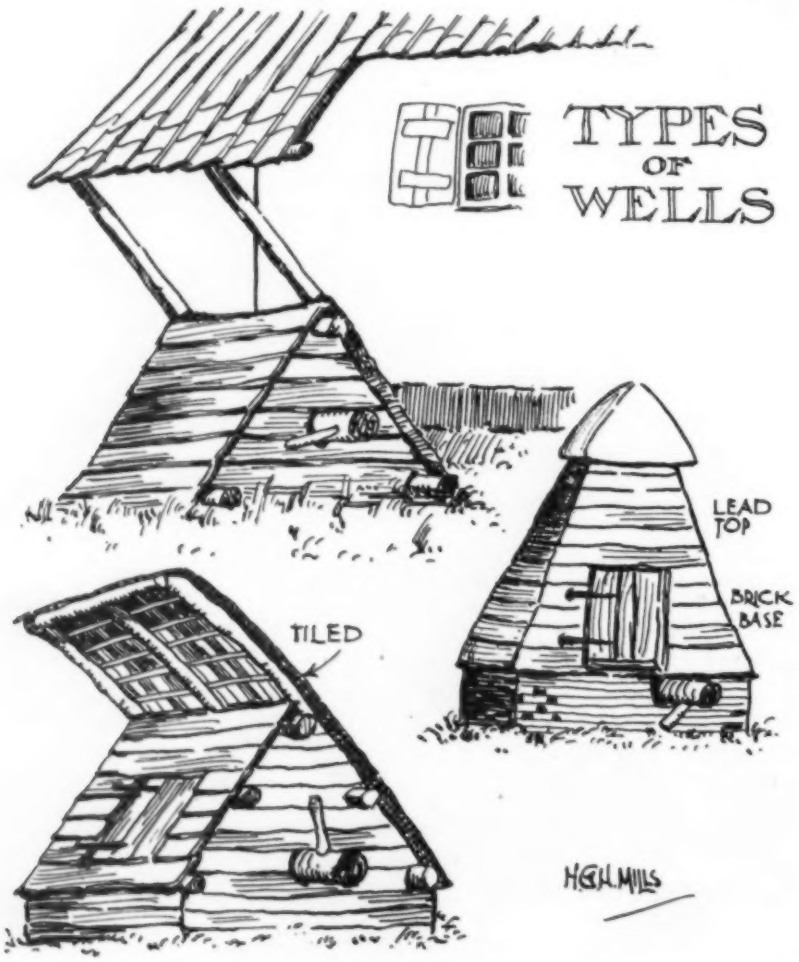
A meeting of this Association was held at Caxton Hall, Westminster, S.W.1, on January 12, for the purpose of forming a London Area Branch. The meeting was representative of members of the London District.

The chairman, Mr. W. J. Stone, M.R.S.I., read the by-laws and objects of the Association, and after a discussion it was unanimously resolved that a London Area Branch be formed. Mr. W. S. Dalton, of the L.C.C., was duly appointed chairman of the new branch, the headquarters of which will be at Caxton Hall, Westminster, S.W.1.

London County Hall.

No decision has yet been reached as to when the new wing required to complete the London County Hall is to be constructed, although work has been proceeding for some time on the foundations. The London County Hall, originally planned to cost about £1,000,000, has already cost well over £2,000,000, and the extension, which was part of the original scheme, will increase the total cost to something like three times the original estimate arrived at before the war.

The plans provided for a building with a strongly-marked centre and two wings. The south wing and the centre are complete, but the north wing is seven bays and the pavilion shorter than the south wing. The original cost for the completion of the extension was considered too expensive in 1921, and the County Council is waiting for prices to come down still further.



Sketches in Northern France.—No. 4. By MR. H. G. H. MILLS. (*See p.* 144).

COMPETITION NEWS

Raffles College, Singapore.

The assessor in this competition, Mr. John Begg, F.R.I.B.A., has made the following awards:—

First premium, No. 17, Messrs. Cyril A. Farey, A.R.I.B.A., & Graham R. Dawbarn, M.A., A.R.I.B.A., 19, Bedford-square, W.C. 1. Second and third premiums, Nos. 16 and 21 bracketed equal: No. 16, Mr. E. Vincent Harris, F.R.I.B.A., 29, St. James's-square, S.W. 1, No. 21: Messrs. S. Woods Hill & E. C. Henriques, AA.R.I.B.A., Bombay. Hon. mention: No. 10,477, Mr. W. S. Huxley, F.R.I.B.A., 44, Great Russell-street, W.C.

Dudley Memorial.

The assessor, Mr. W. Curtis Green, A.R.A., F.R.I.B.A., has made the following awards in this competition:—

1.—(£300), No. 54, Messrs. W. Alexander Harvey, F.R.I.B.A., & H. Graham Wicks, A.R.I.B.A., 5, Bennett's-hill, Birmingham.

2.—(£200), No. 3, Messrs. Stockdale, Harrison, F.R.I.B.A., & Sons, and Geo. Nott, A.R.I.B.A., 7, St. Martin's East, Leicester.

3.—(£100), No. 6, Messrs. H. V. Ashley & Winton Newman, FF.R.I.B.A., 14, Gray's Inn-square, W.C.

Memorial Designs.

Designs are invited (they may be submitted up to September 30) for a statue in bronze, and pedestal, in honour of Sir Ross Smith, the Australian airman who, in 1919, with his brother, Sir Keith Smith, and two Australian mechanics, made an aeroplane flight from England to Australia. The memorial is intended to cost about £5,000. Conditions and full particulars may be obtained from the Agent-General for South Australia, Australia House, London.

The memorial will probably be set up in Adelaide, Sir Ross Smith's native city.

Worcester.

The Education Committee has decided to invite designs from local architects for the erection of a proposed new secondary school at the Thames House site. Final choice of assessor has not yet been made.

Newcastle Fire and Police Station.

Newcastle City Council have decided to hold a public competition amongst architects for plans for the proposed new police and fire brigade station on the Marlborough-crescent Market site. Buildings are to cover 2,465 yds., leaving the remainder for an open court yard. Exclusive of the installation of alarm system, the estimated cost is £12,500. Three prizes, amounting in all to £900, will be offered for designs, and an assessor, nominated by the President of the Royal Institute of British Architects and approved by the authority, will be appointed at a fee of £281 10s. to adjudicate. Sending-in day, March 27.

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given):—Essays on Heating and Ventilating (Mar. 31; Nov. 9, 1923). Holmside Hospital (Feb. 14; Dec. 14, 1923). Industrial Designs (June; Dec. 21, 1923). National Theatre (April 26). Monument to Sir Wilfrid Laurier (April 3; Dec. 14, 1923). Belfast Union Lighting (March; Nov. 9, 1923). Dunfermline War Memorial (March 8; Dec. 28, 1923). Newcastle Concert Hall (March 1; Oct. 26, 1923).

RAFFLES COLLEGE COMPETITION.

THE drawings submitted for these Educational Buildings were on view last week at the office of the Crown Agents for the Colonies, at Millbank, near the Palace of Parliament at Westminster. Twenty sets of plans, many of them being of extraordinary interest, were submitted to the assessor, Mr. John Begg, F.R.I.B.A., who, as Superintending Architect to the Indian Government for several years, is in every respect qualified as an expert of long experience to advise wisely in a local project of this importance. Unfortunately his award had not come to hand when the public exhibition opened; under these circumstances the preferable course in making our notes upon the designs was to follow seriatim the order of the hanging, which appeared to have been made without prescript and quite casually. Identification was out of the question, as it should be for the purpose of the competitions, although in our review critical or descriptive remarks are not easy to follow.

Commencing at the rear end of the exhibition room the first pair of designs, marked "10321" and "10311," seem to have been submitted by the same competitor, judging by their similarity of style, though they are more unlike in plan. At the outset we may briefly explain that the splendid open site is formed by the tableland on the top of a slope, giving in the main a difference of about 80 ft. drop in front. Herein was comprised an important factor in solving the problem, which consisted in accommodating such varying gradients. Naturally the diverse methods adopted by the competitors produced vastly differing lay-outs. So far as we could follow, some of the designs appeared to have ignored these contours. "10321" locates the School Block with its four internal courts in the middle of the site, the students' blocks being grouped round. A water tower facing the Science Building fronts the southern approach road. The main entrance is on the north, terraced to fit the incline. This has a refined and well-considered façade flanked by hostels, right and left. "10311" transversely disposes of the three main college buildings, and connects them with cloisters; the lecture room blocks are set on the south. In front the Administration Building comes between three hostels. Both designs show reserved taste and much study. In "10383" there are scampering roads which scatter the buildings over the site. The good squarish Assembly Hall, carried out behind the Administrative Block, is worthy of its purpose, with open verandahs, so important in the tropics. Plain and unpretentious, this design is British in idea. "10310" displays local knowledge and the value of covered ways. The airy Library is set behind the front portico which furnishes the centre piece of a capital façade ranging before the Assembly Hall. "10342" flanks his hall with the Art School and Science Department, ingeniously adapting the premises to the various gradients, while forethought situated the "native quarters" apart from the hostels and students' blocks. "10476," quite unlike the rest, adopts a capacious boulevard with the cruciform Administration block in the midst, crowding the space rather, and in front this approach is flanked by the six main buildings of the College. "10441" sends a compact lay-out made up of many quads distributed puzzle-fashion round the administrative centre piece, with a portico on each front leading to the Assembly Hall. This feature in the College will probably not be erected for some years to come; therefore a difficulty may arise when it is incorporated, as many of the designs provide, with parts not immediately essential for use when the College is started.

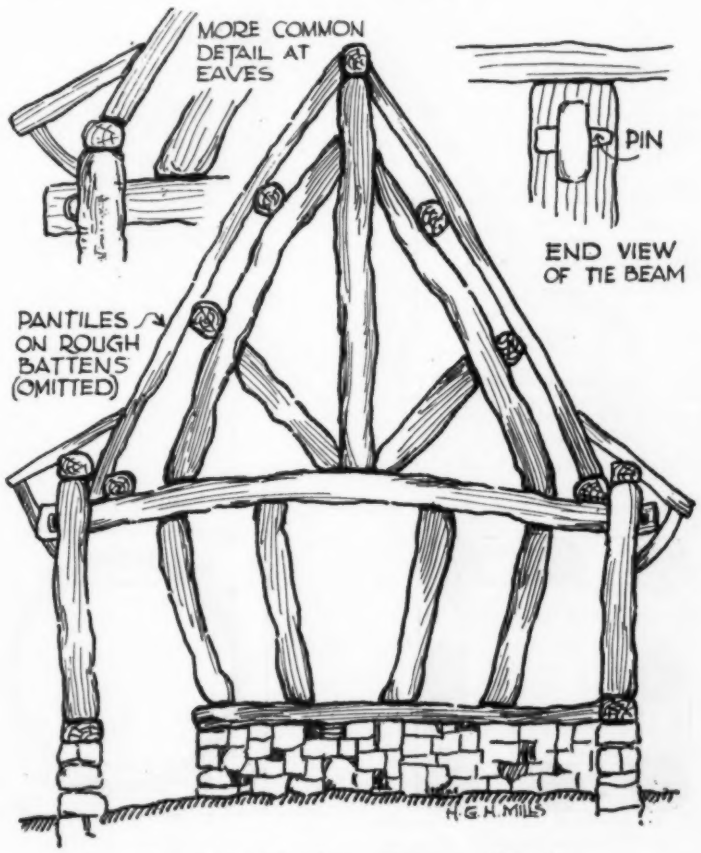
"No. 18" attracts us rather by placing the chief buildings across the site with the Lecture Room buildings disposed on either hand. The Principal's residence is located hard by on the left without intruding needlessly. The ornamental grounds are skilfully laid out with paths geometrically devised, though terraced contrivances to fit the falls are omitted, and no steps are shown. The professors' houses are behind, with playing fields beyond on the north. This is an inexpensive proposal, and presents a scheme with much character worthy of the occasion. The Assembly Hall could be built by itself, as it divides the two internal courts of the main school buildings. The Arts and Engineering Departments are contrived as the frontispiece worked out capably handled as a composition, devoid of pretension and architectural fussiness. "10471" hangs close by, but is of a different order with a plan too cramped for a successful college though not lacking in merit.

"No. 17," shown by nine big strainers of excellent drawings, is quite one of the most satisfactory and meritorious schemes produced for this competition by presenting a direct and practical solution simply devised on broad lines. The hostel buildings flank a great quad, and this is situate where a comparatively level area is obtainable on the little plateau above the escarpment of this Singapore site. The Assembly Hall is complete in itself and adjoins the Administrative Building. It is on an upper floor level above a throughway treated as a cortile. The Hall is admirably contrived with galleries round beyond a colonnade, supporting its segmental ceiling. An apsidal platform recess is well adapted for an organ, also having regard to acoustic efficiency. Offices and business rooms flank the ground floor entry, which leads to the secondary quadrangle in front of the big court previously mentioned. The Library is well arranged and the subsidiary buildings take their proportionate positions proficiently. Ample provision of wide eaves and facilities for good "blow through" ventilation give a sense of airiness so essential even for a hillside college at tropical Singapore. The arched verandahs leave nothing to be desired and greatly enhance the breadth of the façades which, while conforming to the essentials of native architectural comeliness, avoid mere meaningless attachments of the classical orders and entablatures. This proposal relies rather upon a tasteful massing of mural dispositions with monumental proportions adapted to vertical sunshine and Oriental environments. The scheme is comparatively inexpensive. The draughtsmanship is workmanlike and practical, care being taken to set out the falls and gradients so necessary where a site deviates continually in all directions. The perspective is excellent.

"No. 21" looks essentially British in conception, though the architectural embellishment adheres more to Hindu forms. The cupola which surmounts the great Assembly Hall furnishes a handsome composition dexterously devised and located to the hinder part of the Administrative Building, of which it forms a fine constructive finish. The long range of hostel accommodation extending N. to S. along the axial line of the site suggests the likelihood of some complications incidental to the divergence of contour in that direction should the flooring throughout be kept to one uniform level. The verandahs have shafts of Indian character emphasising their vertical lines strongly. Possibly in the sunshine of the tropics this effect might be very different from that suggested by the thick ink lines of these elevationals. The school arrangements are well thought out, and if carried into execution this design undoubtedly would present a handsome and capable college of much architectural excellence. "No. 16" develops in elongated proportions stretching along a terraced lay-out by adapting the curved continuity of the several levels on extended segmental lines. Facility of administration is thus made less easy and vast corridors are unavoidable. The author deserves credit for the ability displayed.

"10475" attaches his Library over the Administrative block to the Assembly Hall, an arrangement suggested by the conditions of the competition, but on the whole the scheme is not exactly attractive. The bulbous dome shown by "10474" may be an oblation to the Orient as marking his Assembly Hall in a recognisable style.

[Since the above was written the award has been made. The result is given on p. 138, and the first premiated design, by Mr. Cyril A. Fancy and Mr. G. R. Dawbarn, is given in this issue.]



Sketch in Northern France.—No. 2.
By MR. H. G. H. MILLS. (*See p.* 144.)

CORRESPONDENCE.

A.A. Year Book and Deficit.

SIR,—The office diary now incorporated with "The Year Book of the Architectural Association" is admirably got up and well arranged, with ample space on each page for two days' entries, instead of three, also lined throughout for recording cash accounts. Owing to unfortunate delay members did not receive their copies, or at any rate I did not, till the middle of January, by which time in all likelihood many had already procured their diaries and started book-keeping. A new feature on this occasion is introduced giving miscellaneous technical data and architectural information amplified by several pages of advertisement matter. This thickening makes the volume (measuring 11 ins. by 8 ins.) rather too bulky and heavy to handle for ready reference. Its production, according to the balance sheet, cost £500, modified to some extent probably by the advertisement returns. The "Old Brown Book" was much handier if less pretentious, but its expense was nominal.

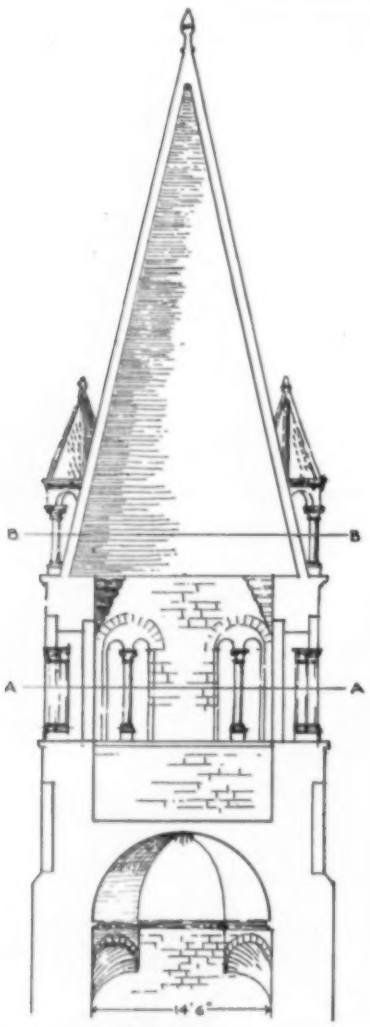
Having joined the A.A. in 1872 I remember "the day of small things," and admit "being old fashioned enough" to reckon much on "making both ends meet." Consequently, perhaps, I may be forgiven for pointing out how sincerely I regret to learn from the new "Year Book" that on a total income for the session of £17,660 8s. 5d. there still remains a significant annual deficit in the neighbourhood of £700. The sessional subscriptions of 1,649 members reached £2,010 10s. 6d., and the fees from students amounted to £9,497 10s. 2d.; but how this last sum is made up, or by how many students, does not appear. The numbers should be clearly stated, particularly as the Board of Education grant stands at £1,884 10s. How much does this State aid work out per head? I hope my inquiry is not to be considered untimely, for I cannot help urging that under such favourable conditions our prosperous and popular "Alma Mater" ought to pay its way. I need not now go into the various items in the balance sheet, but possibly the overhead charges might be modified more proportionately without loss of efficiency. The rent for the three houses comes to only £475, and rates £241 13s. 4d. The executive and administrative expense, amounting to approximately half the gross receipts, occasions the discrepancy, judging by the figures tabulated in the balance sheet set out in this well-produced brochure.

MAURICE B. ADAMS.

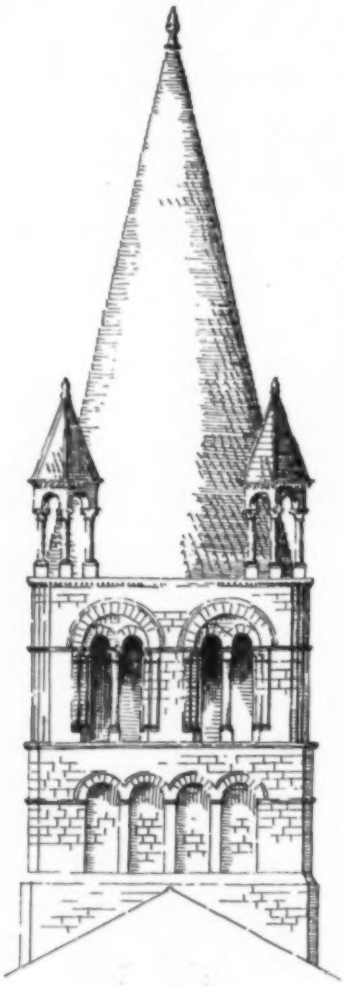
London.

Fig. 5.—Pinnacle of the Tower at Isomes.

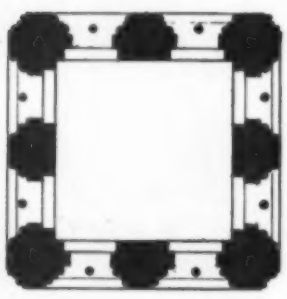
(*See p.* 141.)



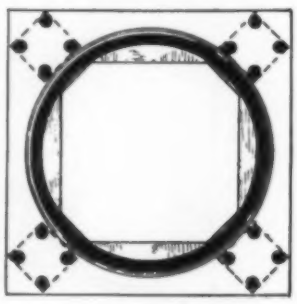
SECTION.



ELEVATION.



PLAN ON A A.



PLAN ON B B.

Fig. 4.—Tower of the Church at Roulet. (*See p.* 141.)

Academic Dress.

SIR,—Has not the paragraph in your issue of 18th inst. been written under a misapprehension?

The meeting to which you refer, and which practically filled the available accommodation, was not called, and did not attempt, to give the Royal Institute's decision on the principles of academic dress. This had been done at the large meeting held last May and by a large majority. But it prevented the new Council's endeavour to negative that decision. In these circumstances it surely is not desirable to refer the matter to "the whole profession," especially as only the members of the Institute have any concern in the subject.

E. H. WOODCOCK, A.R.I.B.A.

"Brighter Bristol."

SIR,—I think the following is too jolly altogether to be missed by the general reader:—

Competition Question: Are the stables for mounted Police?

Answer: Accommodation required for horses only.

Evidently, in spite of the "Geddes' Axe," Bristol intends to go on pampering the public services.

"BRISTOL READER."

The Menai Suspension Bridge.

SIR,—Will you permit me to call the attention of your correspondent "H. C." to the clear width and height required for the navigation of the Straits, 550 ft. by 100 ft. (high tide minimum), respectively? He will then see the impracticability of the ferro-concrete arch.

The subject is too important to be decided by what Professor Lethaby calls "the poverty of one mind."

A. HENTHORN STOTT.

Other Letters.

[Several other letters are unavoidably held over.—ED.]

TOWERS AND SPIRES.

III.—Tower of the Church at Roulet.

By SYDNEY TOY, F.S.A., A.R.I.B.A.

At Roulet, near Angoulême, in the Department of Charente, there is a tower built about the middle of the twelfth century, which, while retaining many of the characteristics, shows a considerable development on those already noted; and this, both in regard to principles of construction and to beauty of form (Fig. 4), the church above which it stands, in common with most of the smaller churches in the south-west of France, is an aisleless building covered by two cupolas, and the tower is built over a bay between the nave and the choir, so that two of its sides are supported by the lateral walls of the church, and two by transverse arches thrown across the building at this point. The bay destined for the support of the tower was especially strengthened, and both the lateral walls and the transverse arches are of a substantial character. The vault above, therefore, finds sufficient abutment in the thick walls by which it is enclosed, aided by the great weight of the work above. The vault itself is of octagonal form, with long and short sides, the latter being carried across the angles on squinch arches.

Above the roof of the church the tower rises in two square stages surmounted by a conical spire and open pinnacles. The first stage, which actually embraces both the vault and the lower part of the belfry, is relieved by plain blind arcades, and the belfry above is pierced on each side by twin windows of two lights. It will be observed that the spire here no longer retains the convex form, observed at St. Front, Perigueux, and at Saintes, but is of true conical form, and rises relatively to a much greater height. A platform is secured for the spire by making its internal diameter at the base greater than the internal width of the tower, so that the portions of the base which cross the angles of the tower are relatively small, and the angles are encorbelled out to support them, as shown in the section and on the plan BB (Fig. 4). The outer surface of the spire is decorated in a manner similar to that observed at St. Front, Perigueux, and at Saintes, and shown in Fig. 2 (vide second article), but that the scales here are pointed instead of being circular. The pinnacles are placed diagonally across the triangular spaces on which they stand in order that their centre of gravity might be brought nearer to that of the spire and their weight thus become more effective than would be the case if their sides were true with the sides of the tower (plan BB, Fig 4).

In design the tower at Roulet is much in advance of any of those already noted. The proportions of the stages to each other and of the tower to the spire are happy, the structure is obviously designed for the purpose of containing bells, and due importance is given to the chamber destined to contain them, the angles of the belfry are moulded, and the whole tower is tied together aesthetically by the string courses, all of which, those at the springing of the arches as well as that between the stages, are continued round the walls. The pinnacles also, while being sufficiently widespread to be effective as loads, are preserved from heavy appearance by their hollow construction. The general effect is pleasing, and graceful to a high degree. Fig. 4 shows a section, an elevation, and two plans of this tower.

The central towers built in the Rhenish provinces during the eleventh and twelfth centuries were principally of octagonal form throughout, after piercing the roof of the church above which they rise. An example of this is seen at Guebwiller, near Colmar. Here the sides of the octagon passing the angles of the crossing are carried on squinch arches, and the tower of octagonal form rises above the roof line in three stages, the first plain and the others pierced by windows, and is surmounted by a stone spire which springs directly from the walls at the top and is also octagonal. Eight pinnacles, one at each angle at the base of the spire, are formed by continuing a portion of the angle of the tower up to a point well above the base of the spire, and from this point breaking back the sides of the projection steeply towards the sides of the spire. This imparts a somewhat crown-like appearance to the upper part of the tower.

Pinnacles, or acroteria, of a similar form occur on the western tower of the church of St. Martin d'Ainay, at Lyons. This tower dates from about the same period as the tower at Guebwiller—the end of the eleventh or beginning of the twelfth century. Here, however, the tower is square, and is surmounted by a low pyramidal spire. The angles of the tower are carried above the base line of the spire, are brought to an acute point, and from this point returned back steeply to the faces of the spire, thus forming earlike triangular projections with the vertical sides in line with the angles of the tower. A more elaborate and pleasing development of these acroteria occurs on the tower of the church of Isomes, near Langres, in the Department of Haute Marne (Fig. 5). The tower dates from the second half of the twelfth century, and rises over a bay of the church similarly to that at Roulet. It is square, rises two stages above the church, and is lighted in the belfry stage by a single window of two lights on each face. The spire is octagonal, and rises rapidly from above the belfry to an acute point. At the base of the spire are four acroteria and four gables. The acroteria occupy the triangular spaces at the angles of the tower, and provide the requisite load at these points. The function of the gables is mainly aesthetic, in that they preserve the continuity round the tower of the broken line given by the acroteria, so that the bizarre effect produced by the isolation of the latter at St. Martin d'Ainay is avoided. Decorated relief is provided by columns at the angles of the acroteria, openings in the gables, and a sculptural cornice which is continued round both the acroteria and the gables. It is probable also that the triangular platforms at the summit of the acroteria were designed to accommodate seated figures of the evangelists, or allegorical subjects. As a result of these refinements, the general effect of the tower at Isomes is far more pleasing, and its character more uniform than is the case in the earlier examples of this treatment at the base of the spire. Provision is made for discharging the rainwater from the spire clear of the tower walls by means of plain gargoyles placed at the junction of the gables and acroteria.

An example of similar treatment of the angles above the squinch arches from the West of France exists at the tower of St. Radégonde, Poitiers, also dating from the twelfth century (Fig. 6). Here the acroteria occur at the base of an octagonal lantern, and surmount very heavy angle columns. Since, in this instance, they are dominated by the lantern above, are themselves of subdued proportions, and have sculptured terminals, they fulfil admirably their aesthetic rôle of breaking the awkward junction between the square at the octagon, as well as their constructive purpose of providing the requisite load at these points.

Fig. 6.—Tower of St. Radégonde, Poitiers.

Tramway Extension at Dulwich.

The London County Council's proposal to extend the tramways from West Norwood to the Crystal Palace met with a good deal of local comment. The trustees of Dulwich College, in particular, were very adverse to the scheme. On the other hand it was contended that the traffic requirements, as well as the growth of the population of the district, justified the extension. At a meeting of the Camberwell Borough Council, recently, the Finance Committee's report, that the Council do not consent to the proposed tramways, was carried.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

A MEETING of the Royal Institute of British Architects was held at Burlington House, W.1, on Monday last.

Obituary.

The Hon. Secretary (Mr. A. Keen) announced the deaths of Mr. Arthur Clyne, elected Fellow 1901, a Past-President of the Aberdeen Society of Architects and the representative of that body on the R.I.B.A. Council, Session 1901-2; Mr. Arthur Clutton Brock, elected Hon. Associate in 1922; Mr. Charles William Reeves, elected Associate 1880.

It was decided that a message of sympathy and condolence be conveyed to the relatives.

CANADIAN ARCHITECTURE.

Mr. Percy E. Nobbs, M.A., F.R.I.B.A., read a paper, illustrated by lantern slides, on this subject. He mentioned, in the course of his paper, that it was just over twenty years since he had been privileged to attend a meeting of the Institute

It was, perhaps, not necessary to embark on a critique of the ugly to justify a claim to their gratitude for not unduly stressing their work from the third quarter of the nineteenth century.

Previous to the cession in 1763, French Canada had a well-established tradition in rouble building, with shingle, and later with sheet tin roofing. Strange to say, the French never evolved a log architecture in Canada, and their clapboard and framing was an adaptation of New England methods founded on prototypes evolved between the Thames and the Channel, where the typical English forests of oak ever gave way to pine. The French-Canadian steeples had always had distinctive character, and the earlier ones were distinguished by simplicity of composition, combined with extraordinary grace. The French window (casement, opening in) had been adhered to with a tenacity almost as great as that bestowed upon language and religion, and only of late years had its supremacy been challenged by the mullioned ranges of casements, and the sliding sash, respective heritages of the English Gothic and Classic traditions. But by far the most characteristic feature of old French building craft in Canada was the exaggerated belleast designed for shade and shelter and an essentially bad snow form. Perhaps its grace had been sufficient justification. It was dead; but it had died hard.

Just after the end of the French régime there was a school of crafts established at St. Joachim, on the north shore of the St. Lawrence, below Quebec. There, among other things, iron latches, locks and cockspurs were made with distinct signs of Gothic method—the only trace of natural, traditional, unrevived Gothic culture he knew of in America. Again, from about 1800 to 1825, one Quevillon established a School of Design and Craft at St. Vincent de Paul, near Montreal, and much of the quaint and interesting work in the way of pulpits and altar-pieces in French-Canadian churches was to be ascribed to his school, which at one time numbered about one hundred apprentices.

FRENCH-CANADIAN CHURCH NEAR QUEBEC
(Built 1750; now demolished.)

Until a century ago there were two well established traditions in Eastern Canada, with French and English origins, both curiously parallel to the contemporary work in the cities of the Baltic. The English tradition was, of course, closely allied to that of New England. The traditions, inherited from the France of the Louis and the England of the Georges, were partly ameliorated by climate and partly by the use of that greatest of all timbers, now well-nigh squandered out of existence, white pine. But the semi-indigenous traditions were no more, for to build in the good old ways has now become desperately expensive, and that part of the goodness which was craftsmanship was quite unattainable. In Halifax and St. John, Quebec, Montreal and Kingston there

CHURCH NEAR MONTREAL (Built 1787; demolished 1885).

were buildings from the design of men trained in the offices of Adams and Cockerel, who came to Canada as civil officials attached to naval and engineers' services. Their works were equal in delicacy and grace—and, he might add, in stability—to anything of the kind in England. But such treasures were in a sad way, and public interest in their preservation was as yet non-existent. A survey of the older architecture was now begun by the students of the Department of Architecture at McGill, while the Province of Quebec Association of Architects had a scholarship for travel and study of old French work. These were poor expedients when public pride was lacking.

Such things belonged to an era that had passed, and exceeded in grace and accomplishment anything done since in Canada. Here and there, up to 1860, a little work in the older manner was still occurring, but a grander scale soon supervened, bringing with it a somewhat vulgarised taste in detail. Thereafter, the most virulent phase of "American Victorianism" had a vogue. Some fine square houses were built about this time, with better detail outside than in, but the vernacular taste became wholly corrupted, and the use of galvanised iron for feigned stonework made all things possible. By 1880 people were no longer building so large; the cycle of economy in scale had set in; but prodigality in the use of pine and oak was still manifest. By 1900 rapidly-rising prices and the depletion of the supplies of the better qualities of timber had inaugurated an era of condensed planning and inferior construction. Craftsmanship disappeared.

Some time about the fifth year of this century, he had the pleasure of showing Mr. Salm, the Dutch architect, the charms of Montreal in mid-winter, and it befell that they sat us down in a then famous hostelry before a mighty jig-saw doorway, manifesting in sundry natural and grained woods, with some gilding, an inarticulate volley of broken pediments and chamfered whatnots. "Why did he make it so ugly?" asked my friend; and again and again, "But why did he make it so ugly?" And then, after a long pause, he grabbed the lecturer by the thigh in enlightenment, and chirruped, "I know! I know! *Because he could not make it any uglier!*" After that they went slumming, and he was charmed with some of the gracious and dignified simplicities of a bygone day, more particularly several buildings since demolished.

The horrors into which the Neo-Greek tradition, after a good start, degenerated in Canada laid open the way for Gothic revivalism, even in its crudest forms, as a welcome relief. This was in turn supplanted by the robust American Romanesque of Richardson during the last twenty years of the century, only to be superseded by a second phase of Gothic, which looked to Mr. Goodhue, rather than the Tudor originals, for inspiration. Their mediævalism was thus seen to be both artificial and exotic in its inspiration. It had been most successful when least scholarly, as in the case of the choir in St. Patrick's Church, Montreal, in which material and climatic considerations joined with a vaguely felt tradition to embody a noble scale and sensitive proportions.

Office buildings were a highly specialised line in what used to be listed as "Yankee notions," and many thoroughly effective examples had been built in Canada both by American architects and Canadians. So also with the institutional work and collegiate buildings, the American models had, for the most part, been followed, with their good and bad points evenly accentuated.

Now, the outstanding curse of life, and therefore of art, on the American continent was standardisation. This vitiated everything from the plans of pantries to the outlook on foreign affairs, and carried with it a vast momentum of inertia. So, one town became like another throughout the States of the Union and, by an infection which there was no possibility of avoiding and no use in denying, throughout the provinces of Canada as well. The older towns still had the bouquet and savour of individuality. Halifax and St. John retained their rugged silhouettes on ridge and crag; Quebec, her discreet fronts on narrow and precipitous lanes, with dainty spires wherever a church might cling upon her slopes; Three Rivers, her ancient memories in stone; Montreal, the disordered picturesqueness of a lingering eighteenth-century civilisation at odds with modern commercialism; Kingston, her forts and her Palladian façades; and London (in the bush) her shaded avenues of elms.

Toronto, till the other day, possessed an element, if not of the picturesque, at least of the intimately reminiscent, that brought to mind the flavour of old English towns. Then that was taken away, as they knew; it was the public-houses redolent of the "putty, brass and paint" of old England.

The smaller towns of Ontario still retained a certain charm due to a not over-accelerated development. But the cities of Ontario, and the cities and towns of the plains, were American, with certain very American standard features, such as useless but elegantly designed columnar porticoes to the banks, and useless and ill-designed Gothic towers upon the churches; and, where educational institutions of any importance occurred, a display of collegiate stage-setting, mullions and buttresses, and parapets all turned out by the acre, with a singular lack of all that Mr. Prior would understand as of the Gothic spirit. Now, in the Eastern States of the Union, the demure and legitimate classic inherited as a real tradition from Georgian times was able to achieve solutions for all manner of collegiate problems.

Materials throughout Canada varied about as much as they did in the similar range of distance from London to Moscow. Of lumber the best went abroad. White pine had been wantonly exhausted. British Columbia fir was now used, even in Nova Scotia. Except birch and maple for flooring, all good hardwood came from the United States. Barring the West, all lumber was now inferior or expensive, or both, a striking

A FRENCH-CANADIAN COTTAGE.

example of exploited natural resources. In Alberta there were superb brickfields, whose product matched the best in the United States—that was in the world—but the brickfields of the chief centres of population yielded sound material, uninteresting in texture and colour. Most first-class face brickwork in Canada was done with American bricks. The situation as to stone was similar. Most stone used came from the States. Nova Scotia, Quebec, Ontario and British Columbia had granite, and some of the plants were as highly developed as any in the world. The grey limestones of the St. Lawrence Valley, Kingston, Montreal, and Quebec were unsurpassable as a dignified material, but they were costly to work compared to the softer sandstones and limestones from the States. The olive sandstones of Alberta and New Brunswick are sad in tone and not really comparable with the grey limestone or American sandstone for weathering quality. Winnipeg had a pale limestone with a strong shell mark admirably suited to large scale work; this found its way as far east as Montreal and as far west as Edmonton. Material had thus but little local significance in Canada. In many cases, whole streets of buildings had involved transport in the raw over five hundred miles and more, from half a dozen directions.

Now, as to the culture which found a general expression in Canadian architecture through the co-operation of the lay and professional minds, there was, of course, that easy generalisation to fall back upon about Canada as an interpreter of Britain to America, and America to Britain. For this view there was some superficial corroboration in the fact that to English eyes Canadian architecture was very American, while to American eyes it often appeared a little English. But all travellers were predisposed to react to the unfamiliar.

Strenuous efforts were made from time to time in magazine articles, novels, histories and caricatures to elaborate a Canadian type—so far without success, for the all-sufficient reason that there were many types, all abundantly characteristic, and much water would pass down the Great Lakes before there was assimilation. The best rooted elements of society in the Maritimes, in Quebec, in Ontario, on the plains, and on the coast, were all distinctive, and long would they remain so. Current Canadian architecture, however, did not reflect these distinctions at all. An understanding of the constituent elements of the architectural profession in Canada was necessary to explain this.

A word upon the building trades in Canada. They were not as highly unionised as in England, but unionisation was an international affair in the United States and Canada. The effect of this was complicated by the racial apportionment of the several labours of building in a district, and the prevalence of racially homogeneous gangs for different work on a job. Apprenticeship was practically non-existent. The trade schools had so far failed of their purpose. As a result the skilled trades were recruited by immigration from overseas. Against such recruitment the "progressive" influences marshalled their strength. Meanwhile the building booms of their prosperous protectionist cousins to the south robbed them of such skilled labour as they might generate or capture.

In the large communities of Canada skilled men could, indeed, be found to carve, model, hammer, cast or paint anything the wit of man could conceive, but they were few, and very inadequately remunerated, and facilities were woefully lacking for the dissemination of their craft knowledge. A few shops still retained the high standards of execution of a former generation, but very few. Within his own experience the standard of execution had gone steadily down in spite of a great improvement in professional services, so far as drawings and details were concerned. A certain mechanical perfection of execution could, it is true, be realised at a price, but for the time being the vital touch and sense of craft had departed from their midst.

As to Canadian contractors, generally speaking, both great and small, were of high ability, conspicuously so in all matters of organisation and administration. They were not, however, invariably masters of their craft. The present tendency was for the execution of works to be regarded as a profession requiring a college training in civil engineering or in architecture. The man bred in the builder's yard thus often found himself in a subordinate capacity, and so tended to extinction. As a consequence, great actual responsibility fell on the clerk of works. A good one would often shoulder the real control on a job, the contractors putting themselves quite cheerfully in the position of agents to assemble material and labour, as required, leaving the clerk of works to issue all instructions. This led to rather subtle situations now and then; but generally to very good value for the client's outlay.

As the ordinary surveyor was all but unknown in Canada, and the contractor took his own quantities (rarely requiring more than a week even on a big undertaking), everyone concerned on a job had a good deal more discretion as to interpretation than with the English system. This added to the architect's responsibilities, but on the whole it made for self-respect, and professional dignity and standing on the part of the contractor.

In conclusion he had come to appreciate architecture most when she came simply robed in scale and cloaked in proportion, leaving off her heirloom adornments and abstaining from the garlandings of the season. Thus one could best conjecture both the grace of her limbs and the moods of her heart.

DISCUSSION.

The Right Hon. Sir Hamar Greenwood, Bart. P.C., in moving a vote of thanks to the lecturer, said in connection with architecture he liked assurance. The architecture of the old castles of England consisted of serious motives rooted in fear, and was reflected to-day in the immense walls surrounding those who inhabited huge houses. In Canada the element of fear was unknown, and their architecture, at any rate, did not possess the immense walls that ruined the landscape of England. He regretted that the Canadian Government had not taken steps to preserve, historically and literally, those structures that represented the commencing of architecture in romantic Quebec. He would impress upon the Commissioner the necessity for taking steps to preserve ancient buildings which now formed one of the great traditions of that part of the British Empire.

A FRENCH-CANADIAN COTTAGE.

After Mr. W. C. Noxon had seconded the vote of thanks, Professor Beresford Pite said the lecturer had taken a wide and sane view of the architecture of a great country. It was a valuable contribution to the profession, but he was not sure what the lecturer was looking for in his description of Canadian architecture. The sense of scale was the most impressive thing in the buildings shown. In regard to the influences in Canadian architecture which had been derived from America, he thought it would have been better if they had turned their attention to the elements of the Old World. Few of the buildings shown appealed to the higher qualities of thought and life. The buildings of religion and education had only been slightly referred to. Perhaps they were not in the purview of the paper. Ultimately there was no spiritual appeal in commercial buildings; there was an absence of a deep and subtle feeling of serious reflection, although he did not suggest putting a facile spiritual meaning on an ordinary design. The impressive buildings of the world in all ages had been buildings devoted to other purposes than commerce or self-aggrandisement: it was unchallengeable.

After the President had put the vote of thanks to the meeting, and Mr. Percy Nobbs had briefly replied, the Secretary read the Deed of Award of Prizes and Studentships for the current year as follows:—

PRIZES AND STUDENTSHIPS.

THE R.I.B.A. ESSAY (Silver Medal and 25 Guineas).—The Council regret that they are unable to award the Prize.

THE TRAVELLING STUDENTSHIPS (The Soane Medallion and £150).—The Council has awarded the Medallion, and, subject to the specified conditions, the sum of £150 to the author of the design submitted under the motto "England." Mr. J. S. Kelsall, Eastbourne.

THE PUGIN STUDENTSHIP AND £75.—The Council regret that they are unable to award the Pugin Studentship.

THE OWEN JONES STUDENTSHIP AND £100.—The Council has awarded the Certificate, and, subject to the specified conditions, the sum of £100, to Mr. J. H. Sexton, Battersea.

THE GRISSELL GOLD MEDAL AND £50.—The Council regret that they are unable to award the Prize.

THE ASHPITEL PRIZE.—The Council has, on the recommendation of the Board of Architectural Education, awarded the Ashpitel Prize (which is a prize of books, value £10, awarded to the candidate who has most highly distinguished himself among the candidates in the Final Examinations of the year) to Mr. Eustace Harry Button, of No, 1, Royal York-crescent, Clifton, Bristol, Probationer 1920, Student 1921, and who passed the Final Examination December, 1923.

THE R.I.B.A. SILVER MEDAL FOR RECOGNISED SCHOOLS.—The Council has awarded the Silver Medal for the best set of drawings submitted at the Annual Exhibition by Post-Graduate Students of the Recognised Schools exempted from the Final Examination to Miss Isabel Maud Chambers, of the Architectural Association School of Architecture.

Cheadle Development Scheme.

A contract consisting chiefly of large girders and roof trusses to the extent of, we understand, nearly 1,000 tons, has recently been placed with Messrs. Lambourne & Co., of Manchester, and will provide employment for some months at their Openshaw works. The steelwork is to be used in the erection of an engineering works involving building covering many acres of land, in connection with the industrial development scheme at Cheadle.

THE LAW RELATING TO BUILDING.

By W. T. CRESWELL, LIC.R.I.B.A., F.R.S.I. (*Barrister-at-Law*).

III.—REMUNERATION.

"Implied" Agreement.

When an architect or surveyor enters into a contract for the employment of his services, his remuneration will, in general, be provided for in the contract; but if no such provision is made, then there is an "implied" agreement on the part of his employer that he shall be paid "reasonable" remuneration. This agreement is constituted by the request and acceptance of the architect's or surveyor's services. See Manson *v.* Baillie (Sir W.), Bart. (1885) 2 Macq. 80. Nevertheless, plans, designs or suggestions may be requested for the approval only of a prospective employer, in which case, of course, no fees can be claimed unless the work is approved; or, at any rate, made use of by the employer. See Moffatt *v.* Dickson (1853) 22 L.J. C.P. 265.

Competitions.

Again, such plans, &c., may be submitted in response to a general invitation in open or limited competition, in which case, unless remuneration is offered to all competitors in the terms of the invitation, unsuccessful competitors cannot claim any remuneration unless they are able to prove that their plans, &c., or any portion of these, have been used, either for the work advertised in the competition, or for any other purpose not mentioned therein. See Landless *v.* Wilson (1880) 8 Court of Sessions, Cases 289.

Supposing, however, it is expressly stated that plans, &c., will not be paid for, but that, in the event of any architect's or surveyor's plans, &c., being accepted and a decision on the employer's side to carry out the work according to those plans, the architect or surveyor will be paid fees for supervision in this case, and supposing his plans are used and he is *not* employed to supervise the works, he has a legal complaint. See Moffatt *v.* Laurie (1855) 15 C.B. 583. If, under any circumstances, the conditions of his employment are to make plans *and* to supervise works, then he is entitled to reasonable remuneration even if the work is not proceeded with. See Burr *v.* Ridout, *The Times*, Feb. 22, 1893. In such a case he would be entitled to bring an action for damages for breach of contract in respect of his supervision of the works See Horton *v.* Hensley, *The Times*, February 19, 1908.

Manner of Payment.

Should there be no mention in the contract of the times and manner of payment of fees, the architect or surveyor will, in general, be entitled to payment by instalments as the work proceeds. See Appleby *v.* Myers (1867) L.R. 2 C.P. 651. Should his undertaking, however, be to supervise the execution of an entire contract, payment being by way of commission on the total cost, he may not be able to enforce any remuneration until the work is complete. See Johnson *v.* Gandy (1855) 26 L.T. (O.S.) 72. Instalments, when due under the terms of contract, are "debts due and payable," and the architect or surveyor is at once entitled to sue for payment. See Workman Clarke & Co., Ltd., *v.* Lloyd Brazileno (1908) 1 K.B. 968.

"Reasonable Remuneration."

The decision of what is "reasonable" remuneration is based on the nature of the work requested and done, the time occupied, and, to some degree, on the professional standing of the architect or surveyor employed. If it is a condition of the contract that a reasonable fee will be paid, and, if he has reason to believe the employer acts unfairly in his final offer of remuneration, the architect or surveyor may take the matter into Court, when a jury would decide what is reasonable. See Bryant *v.* Flight (1839) 5 M. and W. 114. Further, if he is specially employed for additional works, such as measuring for extras and omissions, variations, &c., the employer is responsible for payment to him of extra fees or commission, not the contractor.

Forfeiture of Fees Already Paid.

In Columbus Co., Ltd., *v.* Clowes (1903) 1 K.B. 244, it was laid down that, even if an employer have finally paid fees to an architect or surveyor, the latter may be compelled to refund the whole or a part of such fees, if he have wholly or in part shown lack of skill, by reason of which the employer derives no benefit or only partial benefit from his services. In this case the plaintiffs, in 1897, being lessees of land in Carmelite-street, employed the defendant as architect to prepare plans and specifications, &c., and to engage a quantity surveyor to prepare quantities—for the erection on the site of a factory and offices. The defendant neglected to measure the site; and, acting on unauthorised information in that particular, prepared plans, &c., for a site smaller than that to be built upon. The plaintiffs subsequently found they were unable to raise the necessary funds for the scheme and agreed to pay the architect £200 for his plans, &c., and the quantity surveyor £200 for work done. In 1901 plaintiffs sold the site, when the plans were more carefully examined. It was then discovered that they did not meet the dimensions of the land, and plaintiffs sued defendant for the return of the £200 paid to him; upon a consideration that he totally failed to exercise due care and skill, or in the alternative for damages for negligence. It was held that there had not been a total failure of consideration, but that the plaintiffs were entitled to damages, which damages were nominal, since the plaintiffs had not been in a position to use, or suffer loss, by reason of the faulty plans, &c. Plaintiffs were therefore allowed £40, being the estimated charge for adapting the bills of quantities to the dimensions of the actual site.

Scales of Fees.

Certain institutions—*e.g.*, the Royal Institute of British Architects—have prepared scales of professional charges, mainly based on percentages of the total cost of works carried out; but these, as being recommended by those who are to benefit themselves, have not been viewed favourably by the Courts, and are in no way binding on an employer unless specifically agreed to by him. Juries have, however, usually accepted these scales as "reasonable"; and, in any case, it has always been held that any scale or practice in reference to remuneration, if adopted by a large proportion of the profession, should be considered as a reliable guide by the Courts.

"Ryde's Scale" has more than once been condemned in court as "not being the customary scale of fees which surveyors can insist on receiving" and in Faraday *v.* Tamworth Union (1916) L.J., Ch. 436, the Court refused to assess remuneration on a *quantum meruit* claim by reference to this scale.

Under the Housing Acts the Ministry of Health have determined the scale of fees payable for work in connection with housing schemes, but this is an exceptional case.

Ownership of Plans, &c.

When an employer employs an architect or surveyor in the usual way, does he purchase the plans, &c., or only the use of them for the work proposed? Collins, M.R., in giving judgment in the case of Gibbon *v.* Pease (1905) 1 K.B. 810, said "the contract results in the making of plans, the property in which passes to the building owner on payment of the remuneration provided under the contract, The case cannot be distinguished from that of a contract to paint a picture or design a coat of arms, as to which no question of ownership could arise." However, it is the custom for the architect to retain the plans, even though such custom has been held to be unreasonable and, in any case, he has a lien on them until final payment of his fees.

It may be added that in the above judgment, the case of Ebdy *v.* McGowan, *The Times*, November 17, 1870, in which similar questions arose, was considered and approved.

It would appear therefore that when an architect or surveyor is employed to prepare plans, &c., for remuneration, such plans, &c., become, when paid for, and in the absence of any specific agreement to the contrary, the property of the employer; and, consequently, that he can make any use of them when he pleases.

SKETCHES IN NORTHERN FRANCE.

In sending the sketches, given in this issue, Mr. H. G. H. Mills, of Egham Hill, Surrey, writes:—

"These sketches were made in the country districts of Northern France, the principal interest being the manner in which natural building materials are made use of, in forms of construction sound in principle and well suited to the requirements of a rural population at small cost.

"The walls are generally of roughly squared timber posts, rough lathing, and covered with a coarse plaster or clay lime-washed, or sometimes weather-boarded in the case of outbuildings, and are superimposed on a foundation carried about 2 ft. above ground level, of rubble or brickwork, either being invariably tarred. The roofs are usually pantiles on rough battens, and carried well down at the eaves, the whole giving a very pleasing external appearance, an idea of three different types being given in Sketch No. 1.

"Sketch No. 2 is a truss in an outbuilding, of which the partition forms part, a detail of a more common construction at the eaves, and an end view of the tie beam. The latter is of most interesting construction, being carried through the wall post of the truss and secured by a pin or cotter, and thus utilised to prevent the wall spreading. This form of construction is very common.

"Sketch No. 3 is of a weather-boarded end, covering a more elaborate truss, the construction of which can be fairly well seen, and is more fully indicated by the diagram. The tie beam would normally be covered, the weather-boarding in this particular case having carried away.

"The wells (Sketch No. 4) show, in two cases, an attempt to provide some sort of weather protection to the 'drawer.' The winding apparatus is very primitive, and the wells are generally placed in positions which violate all principles of hygiene, but contaminated water appears to have little effect on those inured to it."

Obituary.

We regret to announce the death of Mr. William Higgs (the senior governing director of Higgs & Hill, Ltd.), who died at his home, at Stockwell, on January 17, in his seventy-second year. Mr. William Higgs was the eldest son of William Higgs, the founder of the business carried on at Crown Works, South Lambeth. He entered his father's business in 1868, and continued with him till his retirement in 1874, when he was joined by the late Mr. Joseph Hill, who, prior to this, was trading with his brother, in Islington, as Hill & Sons. The business was carried on at Crown Works from 1867, under a deed of partnership, until 1898, when it was converted into a private company, the sons of the partners becoming directors. Mr. Higgs devoted his private life to the Spurgeon's Orphan Home, of which he had been trustee since his father's death forty-one years ago, and treasurer since 1900. The interment took place in the family grave, at Norwood, on Monday the 21st inst.

The death has occurred, at the age of eighty-three, of Mr. John Williams, Pencoed (Glam), founder of the Pencoed Brick Works.

R.I.B.A. STUDENTS' COMPETITIONS.

IT is not a great year amongst the R.I.B.A. prize-winners, but we can hardly expect a revival of the keen interest which was felt years ago in these competitions until we get some fresh life and interest into our students' work. We fear there is a lack of some inspiring quality, and yet it should hardly be so, for architecture is not without ardent devotees both amongst our older and our younger men. We sometimes think our students are apt to forget that whilst study and knowledge, effort and tenacity, are very valuable things, they are only, in a sense, the tools with which we work, and an innate consciousness of the artistic appeal must accompany our efforts if we are ever to create beautiful work. We have the greatest admiration for the pluck and hard work which so many drawings at the Institute show from year to year, but we cannot help asking where it all leads. Take, for instance, the interesting subject for the Soane Medallion this year—a cathedral church. However we may fortify ourselves with considered details of measurement and construction, the main idea of such a building is to create a great structure which shall not only make worship conveniently and comfortably possible, but by its exterior expression shall satisfy our need for beauty, help to elevate our thoughts, and typify our aspirations.

We admit that a fine plan suggests all sorts of beautiful possibilities in elevation to the imaginative mind, but we venture to think that a certain disappointment meets us in all these cathedral designs when we turn from the plans to see how they are expressed in elevation.

Do our students feel a thrill of pleasure when they sit down to rear the fabric from the plan? Do they very really try to evolve some beautiful quality of dignity of tenderness of mass; some sense of breadth and repose, or some gem-like quality of beautiful detail? We can hardly believe, judging from the average designs we see, that they are anything more than a more or less arduous task. We should like thoroughly to discourage everyone who is aiming to practise an art for which his mind and thought are unfitted, but we would encourage to our utmost any evidences of a capacity to appreciate the qualities of fine architecture. We have seen in our time many extremes of statement, and amongst them there have been alternating a warning or a praise for good draughtsmanship. This is one of the things a student must settle for himself, but he need no more be discouraged because he cannot accomplish great tricks or great cleverness in draughtsmanship than he should be afraid that fine draughtsmanship will mislead him in his work. We ought not to be afraid of our critics. If we see a student becoming so distinguished in his mere handling of a pen or pencil that he neglects or injures his design through it, we should be inclined to think he had, after all, found himself in one thing though he had lost himself in another.

We feel that these annual competitions only answer their purpose if they give inspiration to those who are capable of profiting by it and gain encouragement in their studies. We still think the lessons of art which they are supposed to teach are aimed too high, and that simpler subjects would be better.

The Soane Medallion subject is an Anglican cathedral church with a nave floor area of 15,000 square feet. There was no limitation as to style, and the walls were to be faced with stone. What may be considered the most originally treated church is a sort of early Flemish Gothic design, "Phœnix," with a strongly pronounced verticality. It has lofty, double flying buttresses and very tall, narrow windows, no string courses or parapet moulding. Over the crossing is a lofty tower some 14 ft. square, with belfry windows 30 ft. high. A good character and proportion is observed throughout. The width of nave and aisles is about 50 ft., and the vista from narthex to altar is about 220 ft.

"Seep" has a fine monumental plan. The nave is only 25 ft. wide, aisles of about 10 ft., and outside that are six chapels north and south, of same width as aisles. The transept is of same width as the nave, with similar aisles. The east end has a semi-circular apse, with six radiating chapels, and in the centre between these the lady chapel is prolonged out to the east. There is a saucer dome over the crossing, 70 ft. diameter. The exterior is well treated, with an octagon lantern at the crossing and an outstanding square belfry tower. This detail is carefully thought-out, but there appears to be little or no light in the building.

"England" is a design in middle-pointed Gothic, worked out with some care and quality. The nave and aisles, about 55 ft. wide, with two low square towers flanking the crossing of nave and choir, and incipient towers at the west end.

"Dean" has an admirably treated design, very well drawn. The interior is designed with boldness and in good proportion, the east end suggesting the Baths of Caracalla. The columnar arcade to the aisles is good. The twin flanking towers and dome between and simple mass of the whole group would be telling. The design does not suggest nearly so large a building as that indicated in the conditions, and the large spacing of parts would lessen the apparent size, as in the case of Bentley's Westminster Cathedral. The author of this design, if he is not forced into other ways, should go far. It is a pleasure to see a design so well and feelingly drawn; it is quite nice sometimes to see good draughtsmanship not aping Beaux-Arts methods.

"La Trinité" does even worse to belittle his building, for he has only two wide bays and one small one to his nave. The proportions of the design are unhappy. "Lampsacus" shows a design with some Greek feeling, but the proportions are not very pleasing.

For the Pugin studentship, Donald H. McMorran has several careful drawings of the beautiful church of Northleach and a few quite good freehand sketches. Jas. F. Hampton shows a large selection of interesting subjects. W. J. B. Price has made some interesting choice of subjects, but his work is rather heavy-handed. Claude J. W. Messent has some nice drawings, but no freehand sketches; there are good subjects in the East country: and they include the unusual door of Salle Church, Norfolk. Altogether, the Pugin Competition has fallen from its high estate this year.

For the Grissell Gold Medal there is only one design—of a motor garage engine factory. The construction is carefully worked out, but the design is very poor.

In the Owen Jones Competition the drawings by J. H. Sexton show commendable power of illustration, and his design for wall-painted decoration for a guild room shows some real knowledge of colour effect.

Some excellent drawings and sketches by N. Goodson and D. S. Holt (Tite Prizeman, 1922) are exhibited. One or two, at least, are almost models of what a drawing may be at its best.

It is quite a treat to look over the admirable studies by Mr. A. Newton Thorpe, the Pugin Student, 1923. We have never seen anything better, and when the history of our contemporary draughtsmanship is fairly represented it will not do to overlook such things as Mr. Thorpe's "Poppy Heads in Southwold Church." It is indeed good to see draughtsmanship so evidently speaking from the feeling of one who appreciates his subjects so well.

Irish Housing.

President Cosgrave introduced in the Dáil recently a bill providing £300,000 to facilitate the building of dwelling-houses, by grants to builders. Since the war, he said, an enormous difference had existed between the cost of working-class houses and the price people were able to pay for them, and it was to some extent the object of the Bill to bridge that difference.

R.I.B.A. MINUTES.

WE take the following notes from the Minutes of the Council meeting held on January 7th:

Visiting Board for the Recognised Schools.—On the recommendation of the Board of Architectural Education, the Council sanctioned the creation of a visiting board to assist and report upon all schools applying for or enjoying exemption from the Royal Institute Examinations.

Interchange of Students between Schools of Architecture.—The Council accepted the principle of the interchange of students between one recognised school and another on the understanding that, in the case of such students, exemption from the examinations of the Royal Institute would be granted only on the joint recommendation of the Head of the School and the external examiner or examiners.

It was also decided that in the event of students from schools of architecture not recognised (for exemption from the examinations of the R.I.B.A.) entering a course at a recognised school, each application from such a student for exemption from the the R.I.B.A. examinations should receive sympathetic consideration on its merits.

Ashpitel Prize, 1923.—On the recommendation of the Board of Architectural Education, it was decided to award the Ashpitel Prize for 1923 and the Mark of Distinction for Thesis to Mr. E. H. Button.

Shortage of skilled labour in the building industry.—The National Federation of Building Trades' Employers and the National Federation of Building Trades' Operatives have accepted the invitation of the Council of the R.I.B.A. to appoint representatives to take part in a joint conference on the subject of the shortage of skilled labour in the building industry.

MEETINGS.

FRIDAY, *January* 25.

Royal Institution of Great Britain.—Sir Aston Webb on "Future Development of London." At 21, Albemarle-street, W. 1. 9 p.m.

Glasgow Architectural Craftsmen's Society.—Mr. A. Cullen on "Notes on the Building Stones of Scotland." At Royal Technical College. 7.45 p.m.

SATURDAY, *January* 26.

Royal Institute of British Architects.—Visit to the Bank of England.

MONDAY, *January* 28.

Architectural Association.—Mr. B. Oliver on "Case for the Preservation of Old Buildings." At 34, Bedford-square, W.C. 1. 7 p.m.

TUESDAY, *January* 29.

Society for the Promotion of Roman Studies.—Mr. R. G. Collingwood on "British Frontier in the reign of Septimus Severus." At Burlington House, Piccadilly, W. 1. 4.30 p.m.

National Federation of Building Trade Employers.—Annual Dinner. At Hotel Victoria, Charing Cross, W.C. 2. 7.15 p.m.

University of London.—Mr. G. A. Sutherland on "Acoustic Demands in Auditorium Design." At Gower-street, W.C. 1. 5.30 p.m.

WEDNESDAY, *January* 30.

L.C.C. Central School of Arts and Crafts.—Sir Banister Fletcher on "Roman Architecture." At Southampton-row, W.C. 1. 6.30 p.m.

THURSDAY, *January* 31.

Auctioneers' and Estate Agents' Institute.—Mr. M. Beavan on "Valuations." At 34, Russell-square, W.C. 1. 6.30 p.m.

LEADING CONTENTS.

	PAGE
VARIATIONS ON AN OLD THEME	135
NOTES	136
GENERAL NEWS	138
COMPETITION NEWS	138
RAFFLES COLLEGE COMPETITION	139
CORRESPONDENCE	140
TOWERS AND SPIRES	141
LAW RELATING TO BUILDING	144
R.I.B.A. STUDENTS' COMPETITION	145
THE COMPLEAT ARCHITECT	150
PRACTICAL DESIGN FOR BUILDING CONSTRUCTION.—III	151
THE ARCHITECTS' AND BUILDERS' INQUIRY BUREAU	151*a*
LEGAL SECTION	152
INDUSTRIAL ART	154
THE BUILDING TRADE	155
MODERN BUILDERS' MACHINERY	155
THE WEEK IN PARLIAMENT	156
CONTRACTS, COMPETITIONS, &C.	158
TENDERS	163
THE SCOTTISH BUILDER	165
NEW BUILDINGS IN SCOTLAND	165

ILLUSTRATIONS.

The Raffles College, Singapore.

In their report, the authors of the successful design, Mr. Cyril A. Farey, A.R.I.B.A., and Mr. G. R. Dawbarn, M.A., A.R.I.B.A., state:

"The main College buildings face north-east. This choice is governed by the following considerations:—

"(*a*) As the sun passes almost directly overhead from east to west, it is very undesirable that any building should face either due east or due west. On the other hand, the atmosphere of Singapore is so humid that it is highly desirable that direct sun should be able to enter every room for a short time every day. That this may be attained, and that the rooms may, at the same time, be kept cool, a north-east aspect is considered ideal.

"(*b*) A spur runs from the hill summit in a north-east direction. An economic, and, at the same time, symmetrical lay-out, has been obtained by placing the buildings astride this spur, the axis of the spur being taken as the axis of the scheme.

"(*c*) The Bukit Timah-road is the most important boundary. By choosing a north-east aspect, a comprehensive and effective view of the scheme is obtained from this road.

"The houses for the European staff and the three hostels, occupy the summit of the hill. The main College buildings are 13 ft. lower. All the principal buildings are thus on high ground. Great care has been taken to minimise 'cut and fill.'

"The Administrative block is placed on the main axis, and is in direct communication with the main College buildings. Cars and pedestrians have direct access to this block from the main approach without first entering the quadrangles.

"Although the lay-out has been conceived on the assumption that the complete accommodation given will be required, care has, at the same time, been given to so dispose the blocks which are to be erected immediately, that, as they are completed, they will group together and will be in due relation to each other.

"The main College blocks have been planned so that they can, if necessary, be extended at some future date. These possible extensions are suggested on the lay-out plan by dotted lines.

An area for playing fields is reserved axially beneath the sports pavilion, whence a comprehensive view could be obtained.

Each hostel looks over its own garden and has direct access thereto.

The main approach is from the Bukit Timah-road and ascends gradually to the administrative block.

On either side two quadrant carriage drives proceed under the Arts and Engineering Blocks and ascend past the hostel blocks to the road containing the staff quarters. The College quadrangle is intersected by two paths connecting the main entrances to the different blocks, and the hostel quadrangle has a continuous path surrounding an uninterrupted lawn.

Complete circulation is provided in the various buildings by verandahs containing large openings to the air.

The Science Block is grouped with the other buildings, included in the first building operation

All three Hostels give precisely the same accommodation for students' quarters, all rooms being protected by ample verandahs. Each student has a cubicle opening on to a verandah. Rattan swing half-doors are fitted allowing continuous ventilation whilst allowing adequate privacy. The pitched roof runs over the verandahs and is ventilated at ridge and eaves.

The five houses for staff quarters included in the first operation are grouped together as one unit. On the ground floor verandahs are placed on all sides except N.E. The first floor is protected by broad 4 ft. eaves.

In the provision for future building operations, in respect of the administrative block, the porte cochère gives access to the waiting hall, whence there is access to the principal and the registrar, to the main quadrangle, and to the great stair leading to the hall above. On the right is the librarian's wing and on the left the stage, with retiring rooms; also caretakers' rooms and chair store for 500 chairs. The library is combined with the great hall, the books being housed on three levels. In the galleries tables are provided where the students can work direct from books of reference. Additional rooms are provided for manuscripts and special collections.

The design for the arts block is only tentative and has not been fully worked out.

The engineering block is also very tentative and no comments are necessary at this stage.

The sports pavilion is on slightly rising ground overlooking the whole of the playing fields.

Quarters for 20 general servants are shown in the form of a court, three sides of which are formed by rooms of about 90 ft. sq.

A similar plan is adopted in quarters for six gardeners.

Additional staff quarters are all placed on high ground and are similar in type to those previously dealt with.

The architectural style adopted is of collegiate character and it has been thought desirable to group the main buildings around two quadrangles in order to give the collegiate character of the older universities.

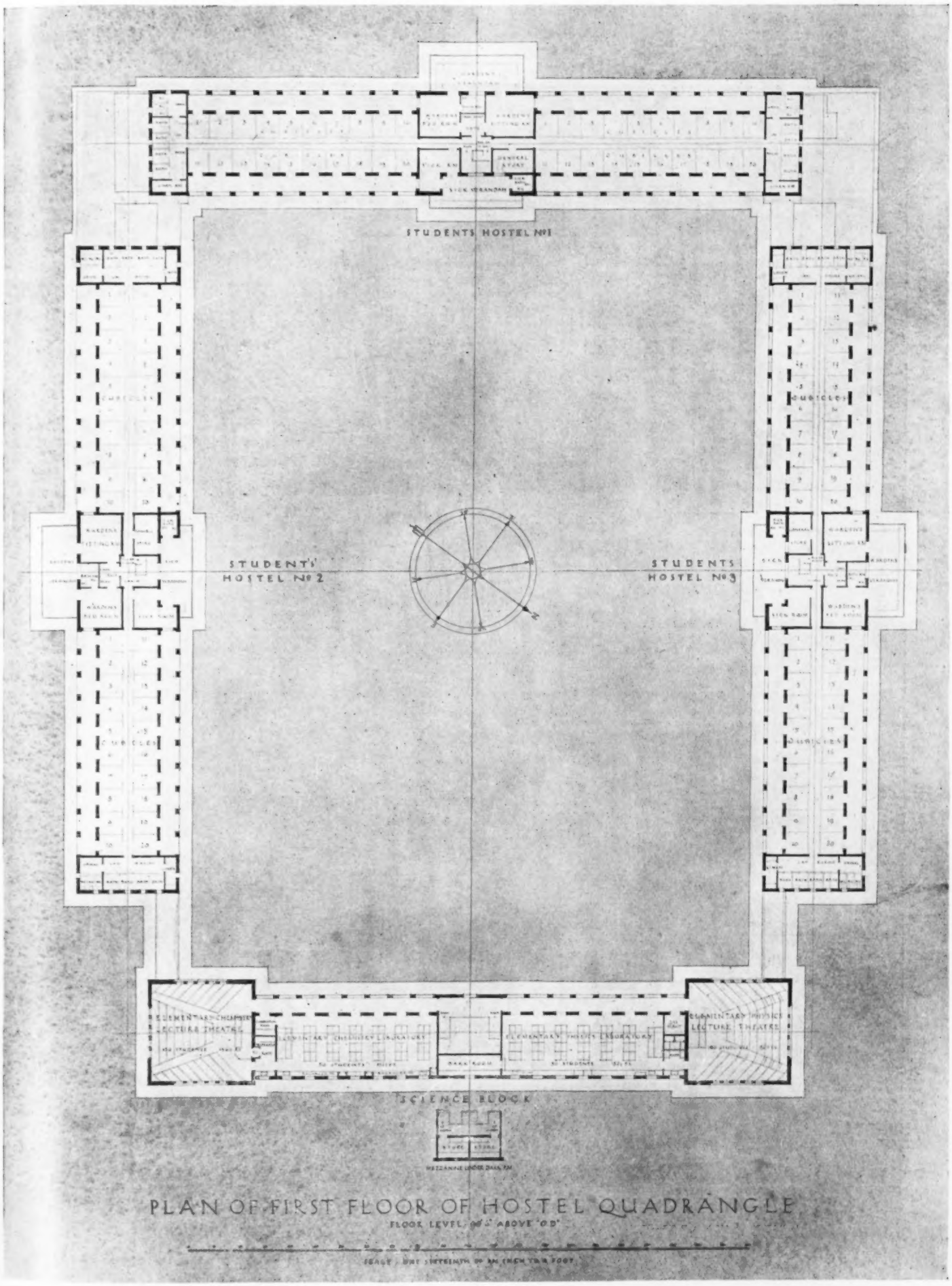
Raffles College, Singapore, Competition. Design Placed First: By MR. CYRIL A. FAREY, A.R.I.B.A., and MR. GRAHAM R. DAWBARN, M.A., A.R.I.B.A.

R.I.B.A. Prizes and Studentships.

A list of the prizes and studentships awarded by the Royal Institute of British Architects this year is given on p. 143, and a review of the designs submitted on p. 145. In this issue we illustrate the Design for an Anglican Church, by Mr. J. S. Kelsall, which was awarded the Soane Medallion and £150.

Dudley Memorial.

We also illustrate the design by Messrs. W. Alexander Harvey, F.R.I.B.A., and H. Graham Wicks, A.R.I.B.A., in the Dudley Memorial Competition.



Raffles College, Singapore, Competition.

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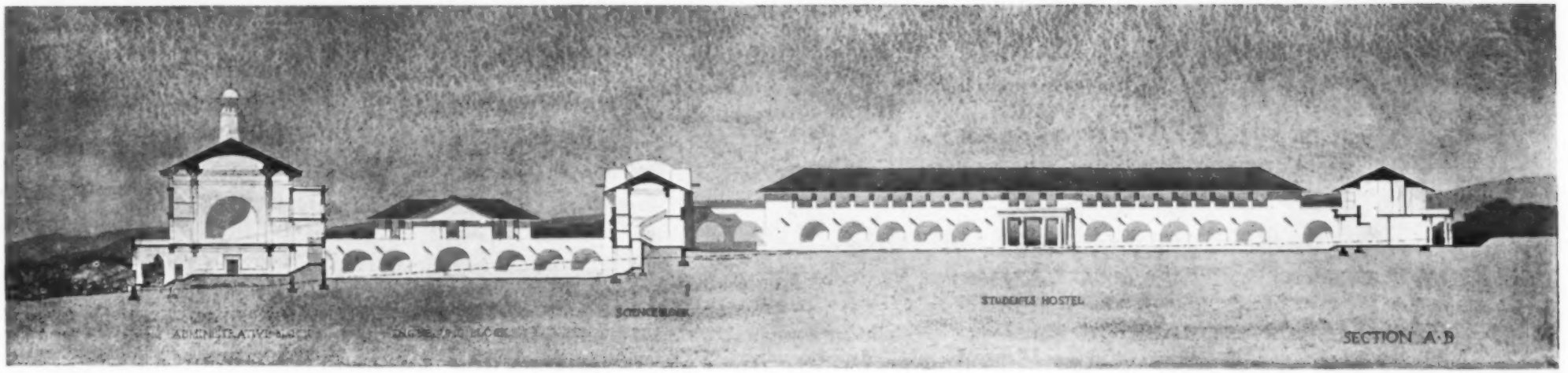

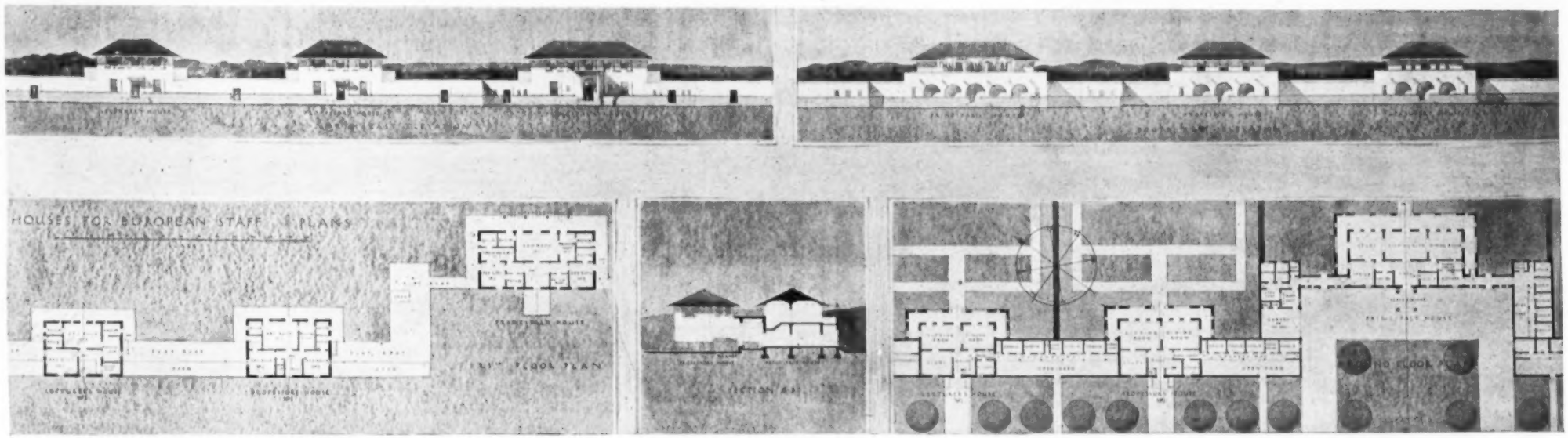

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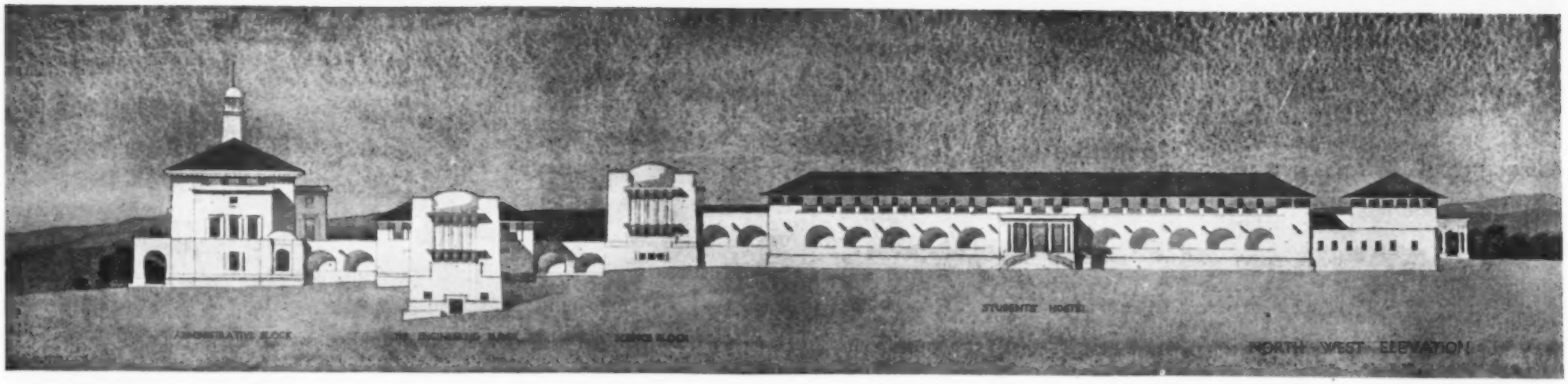

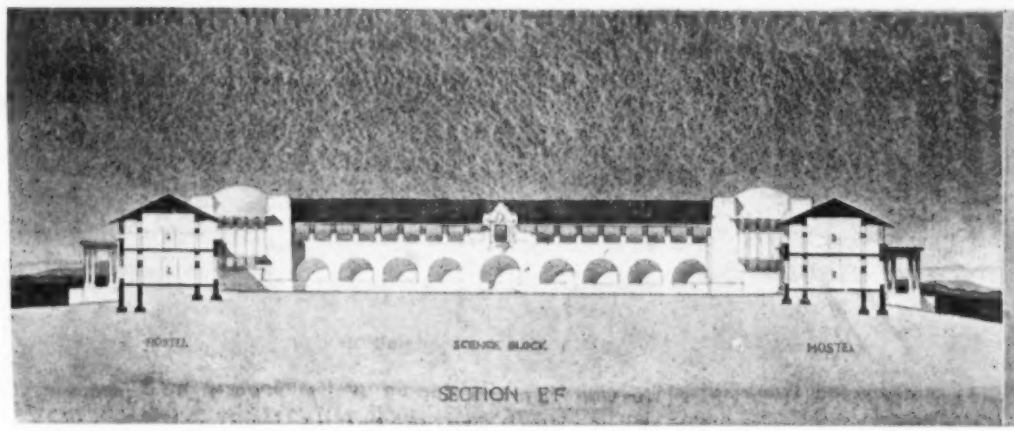

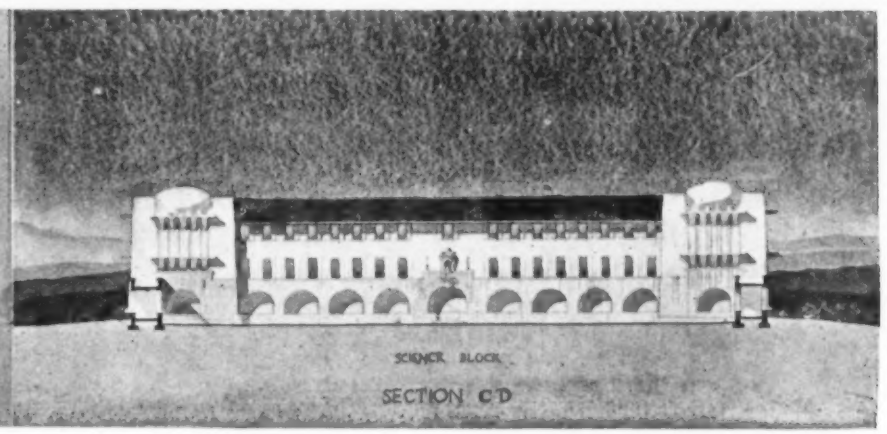

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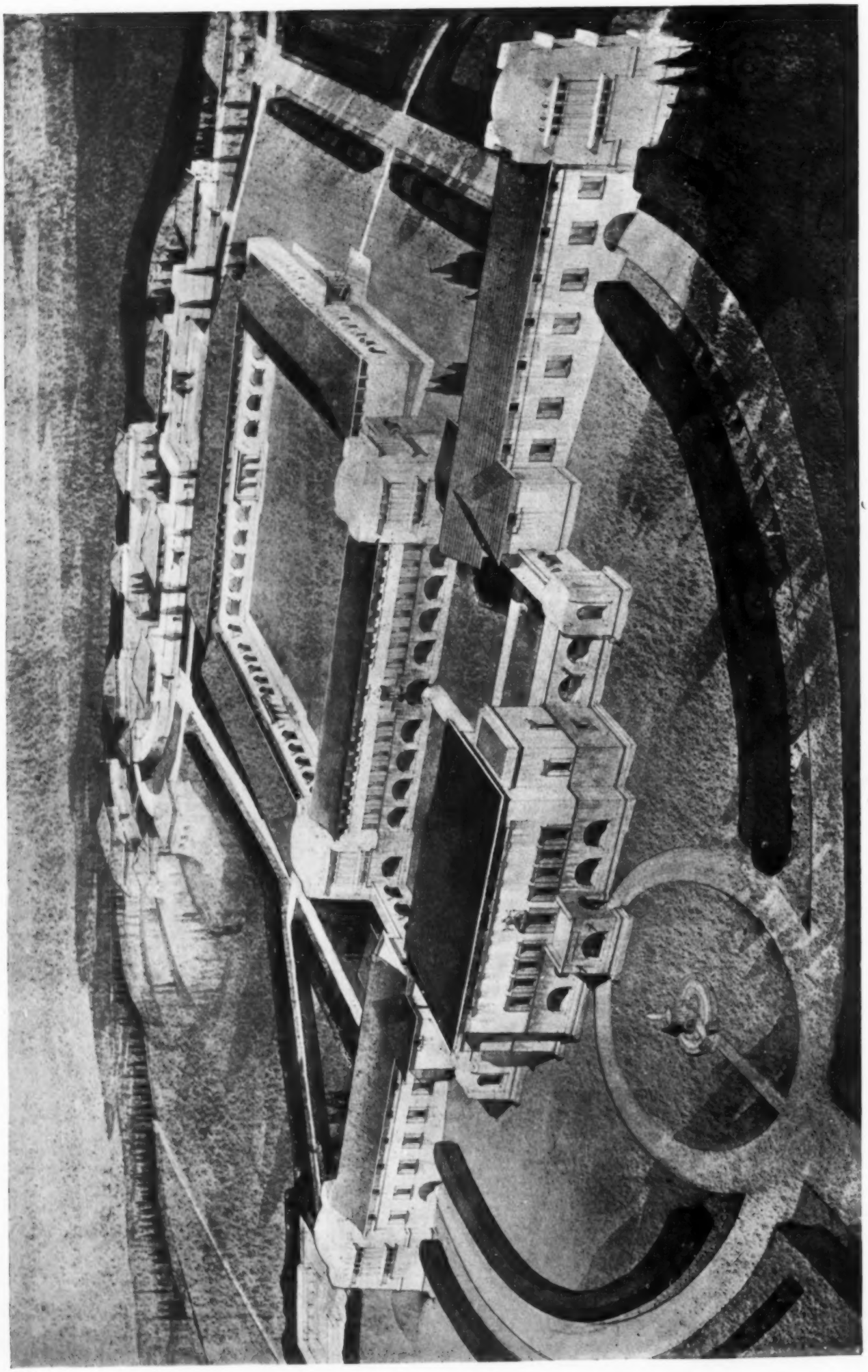

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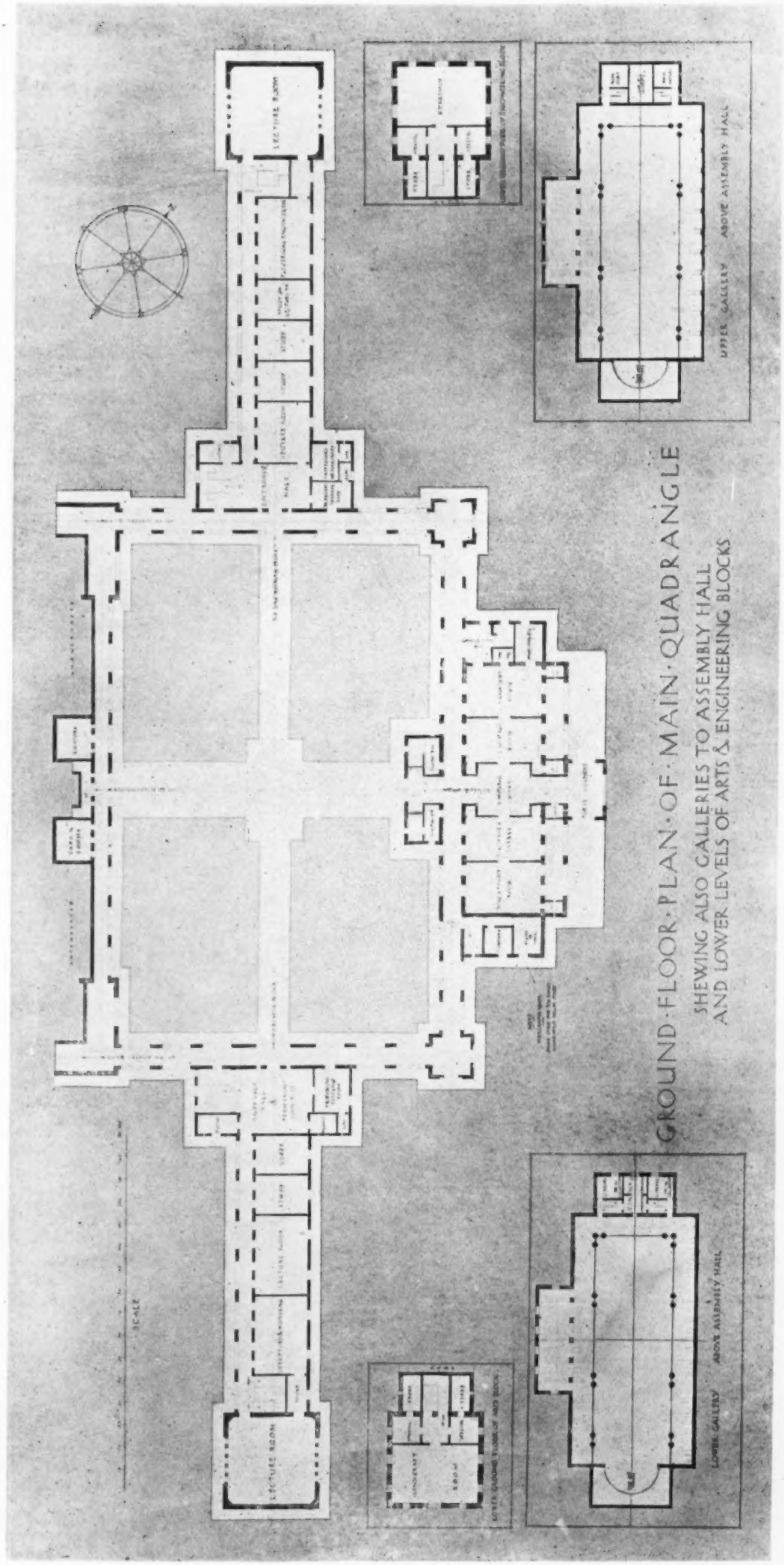
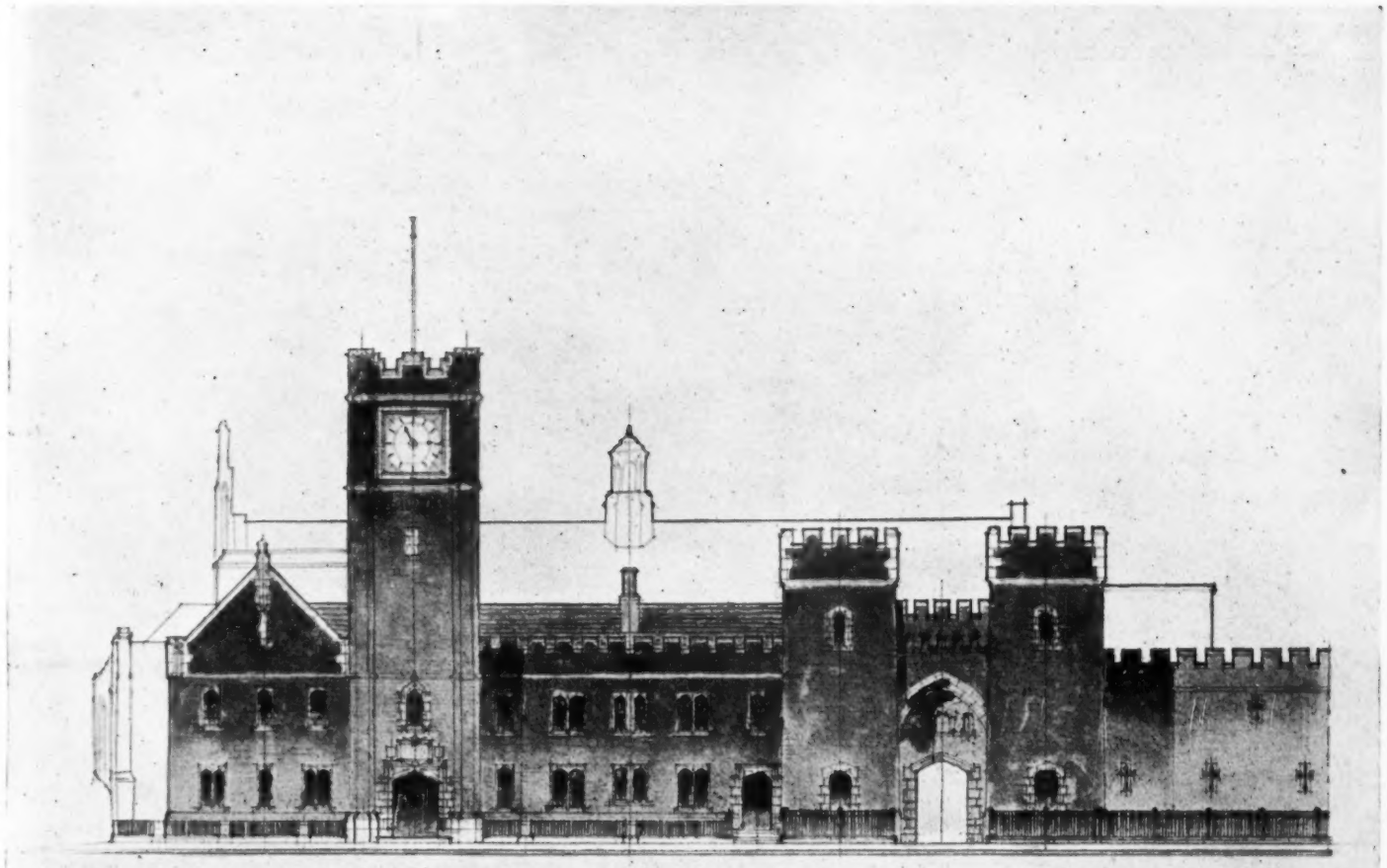

GROUND·FLOOR·PLAN·OF·MAIN·QUADRANGLE
SHEWING ALSO GALLERIES TO ASSEMBLY HALL
AND LOWER LEVELS OF ARTS & ENGINEERING BLOCKS
SCALE
LECTURE ROOM
UPPER GALLERY ABOVE ASSEMBLY HALL
LOWER GALLERY ABOVE ASSEMBLY HALL

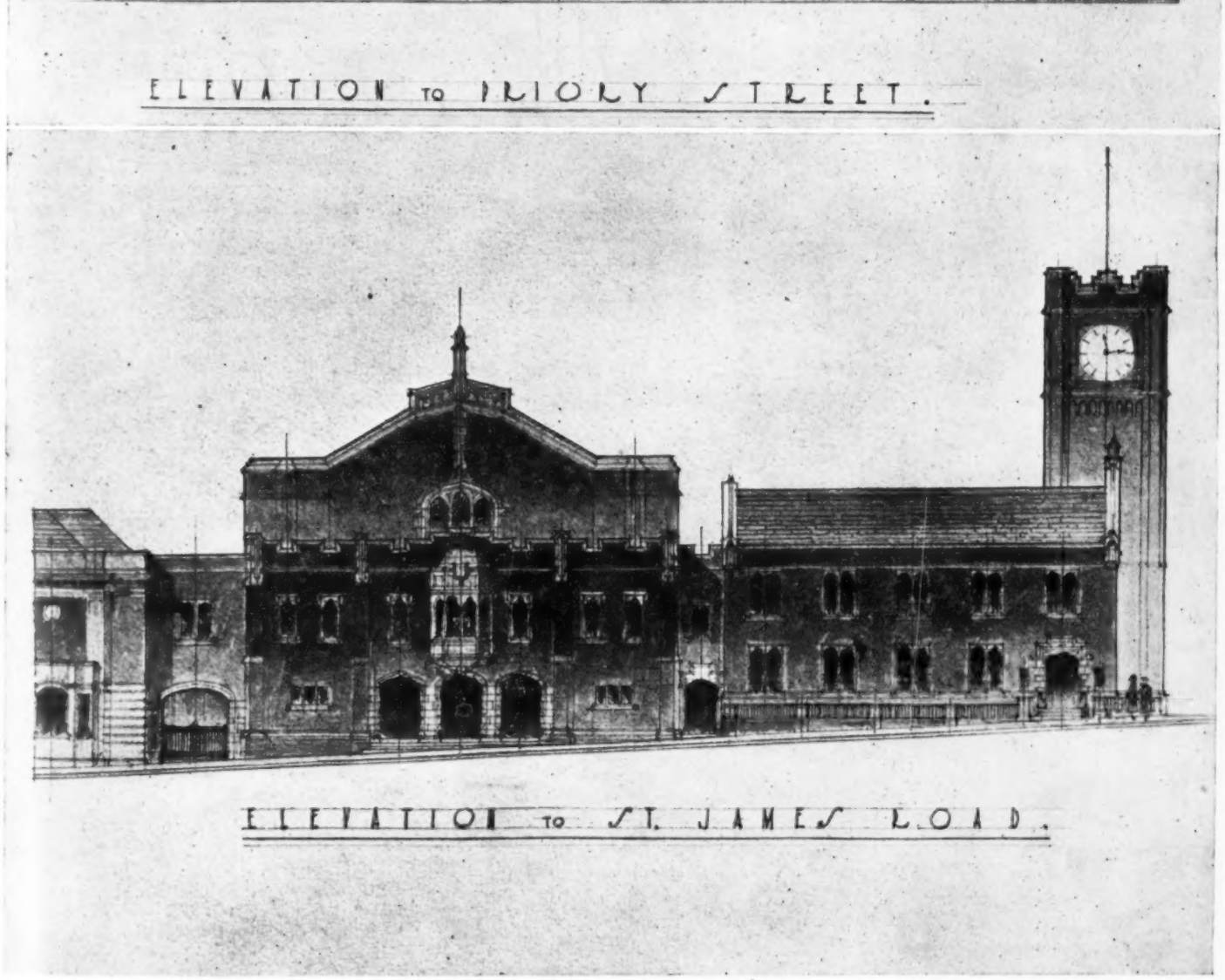
Raffles College, Singapore, Competition.

Design Placed First: By Mr. Cyril A. Farey, A.R.I.B.A., and Mr. Graham R. Dawbarn, M.A., A.R.I.B.A.

UNIV. OF MICH.



ELEVATION TO PRIORY STREET.

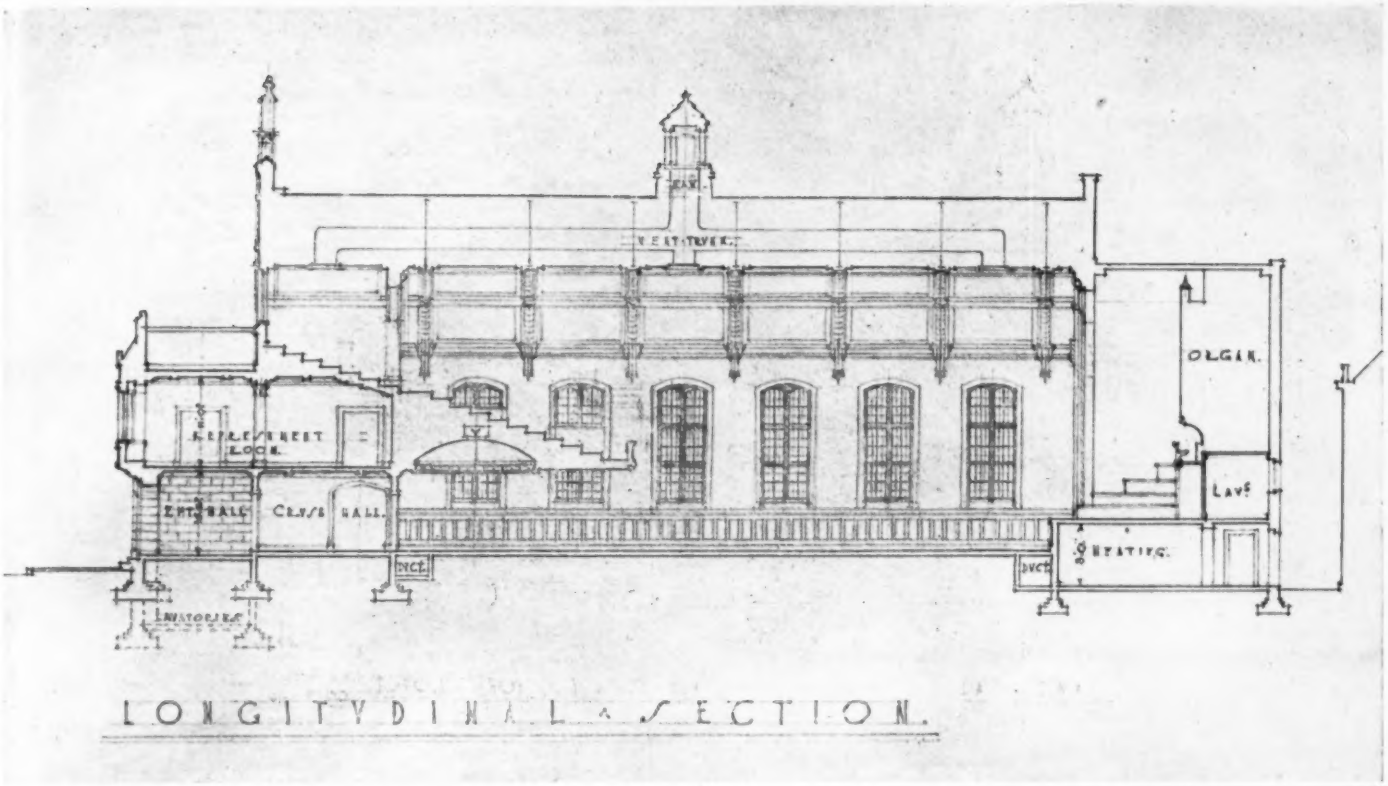


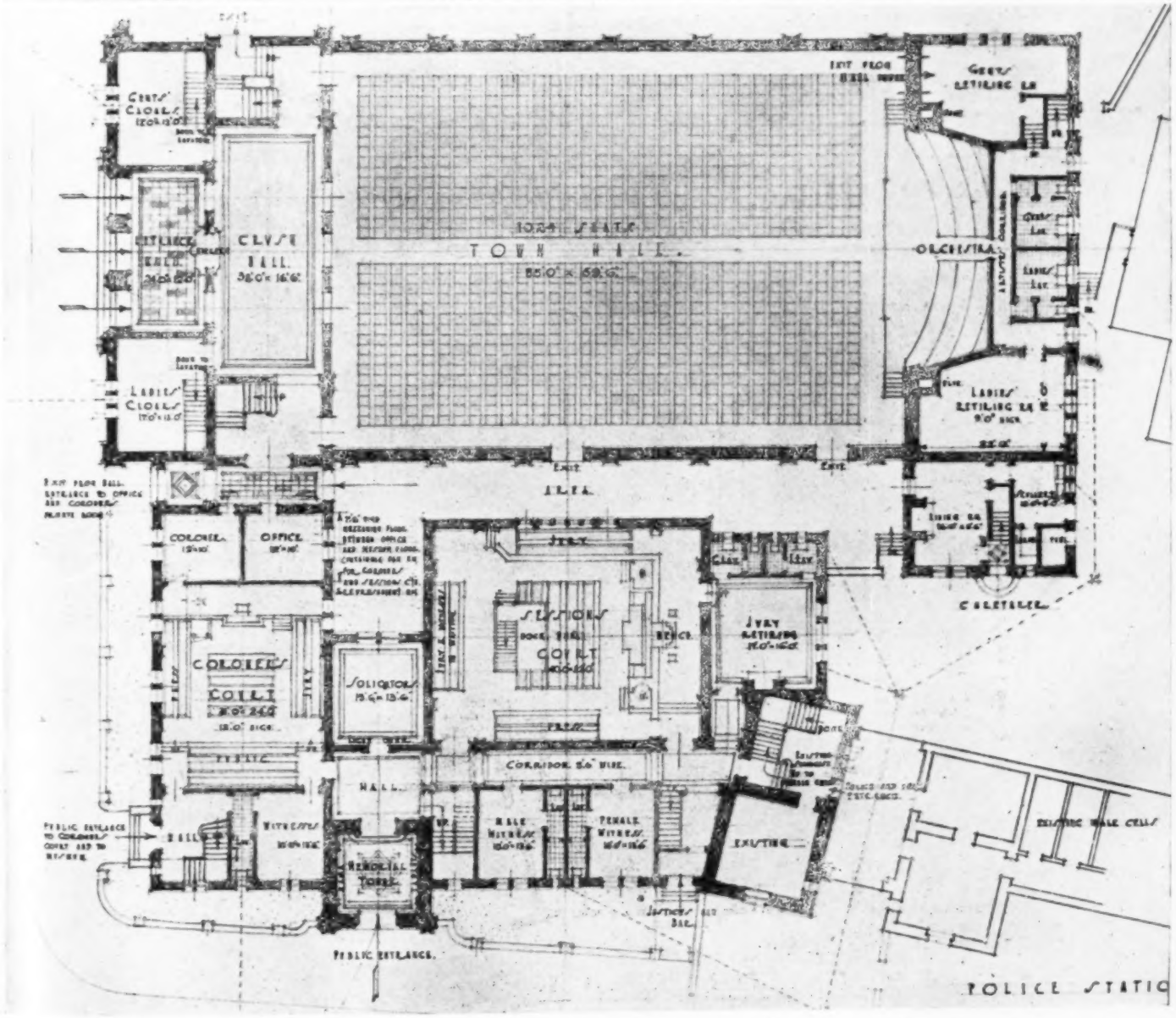
ELEVATION TO ST. JAMES ROAD.

Dudley Memorial Competition.

Design Placed First: By Messrs. W. Alexander Harvey, F.R.I.B.A., and H. Graham Wicks, A.R.I.B.A.

UNIV. OF MICH.

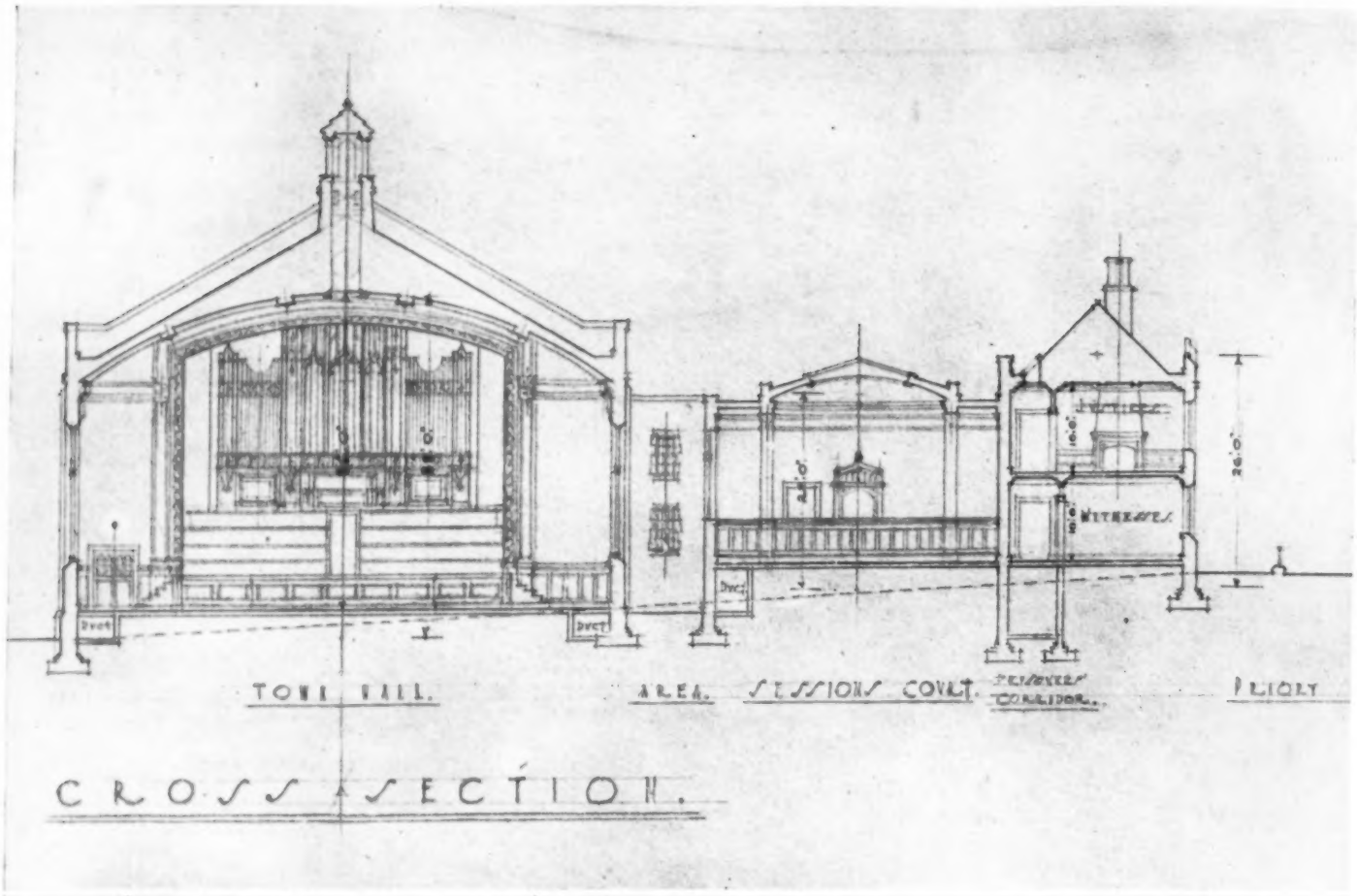




GROUND FLOOR PLAN.

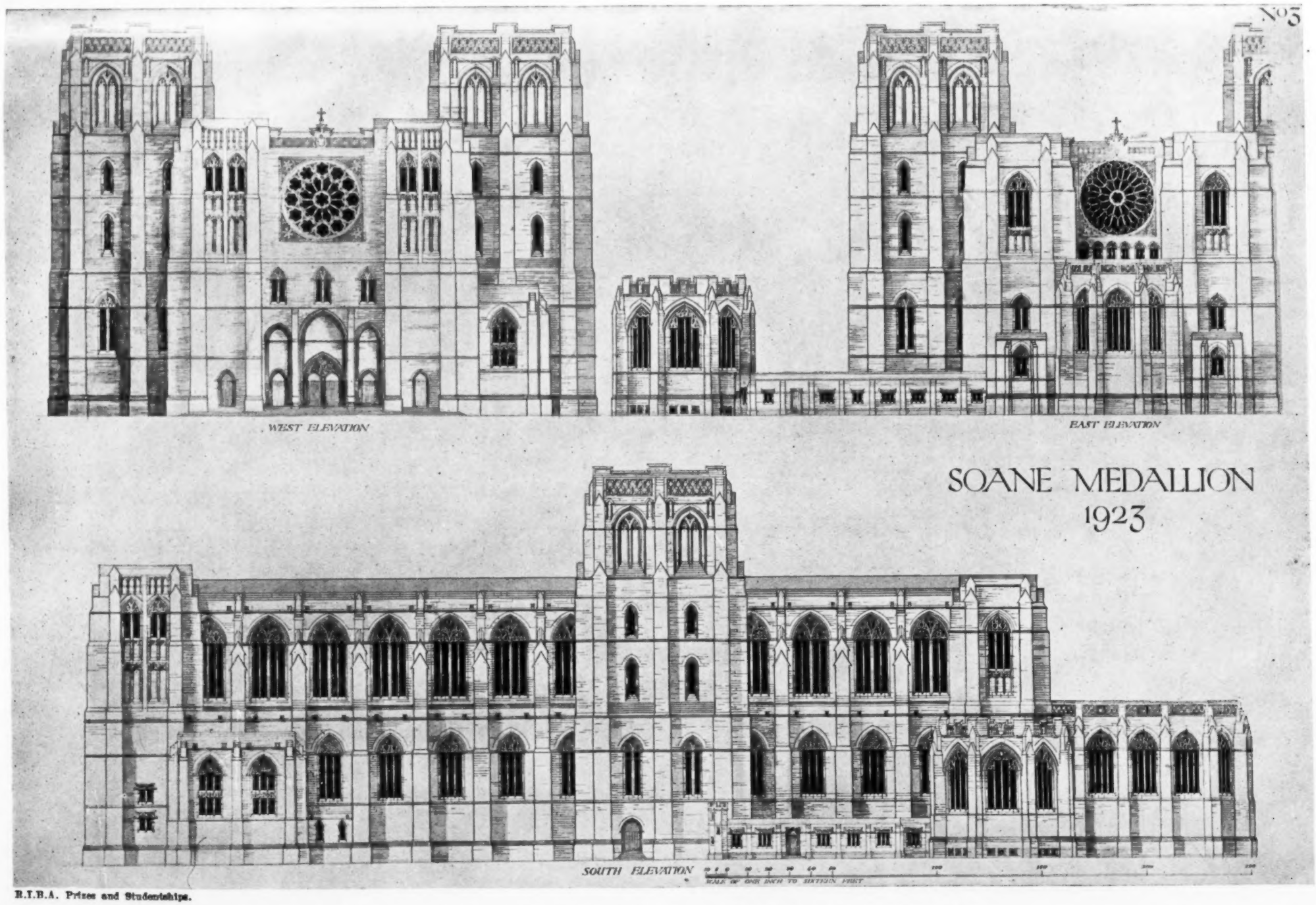
Dudley Memorial Competition.

Design Placed First: By MESSRS. W. ALEXANDER HARVEY, F.R.I.B.A., and H. GRAHAM WICKS, A.R.I.B.A.



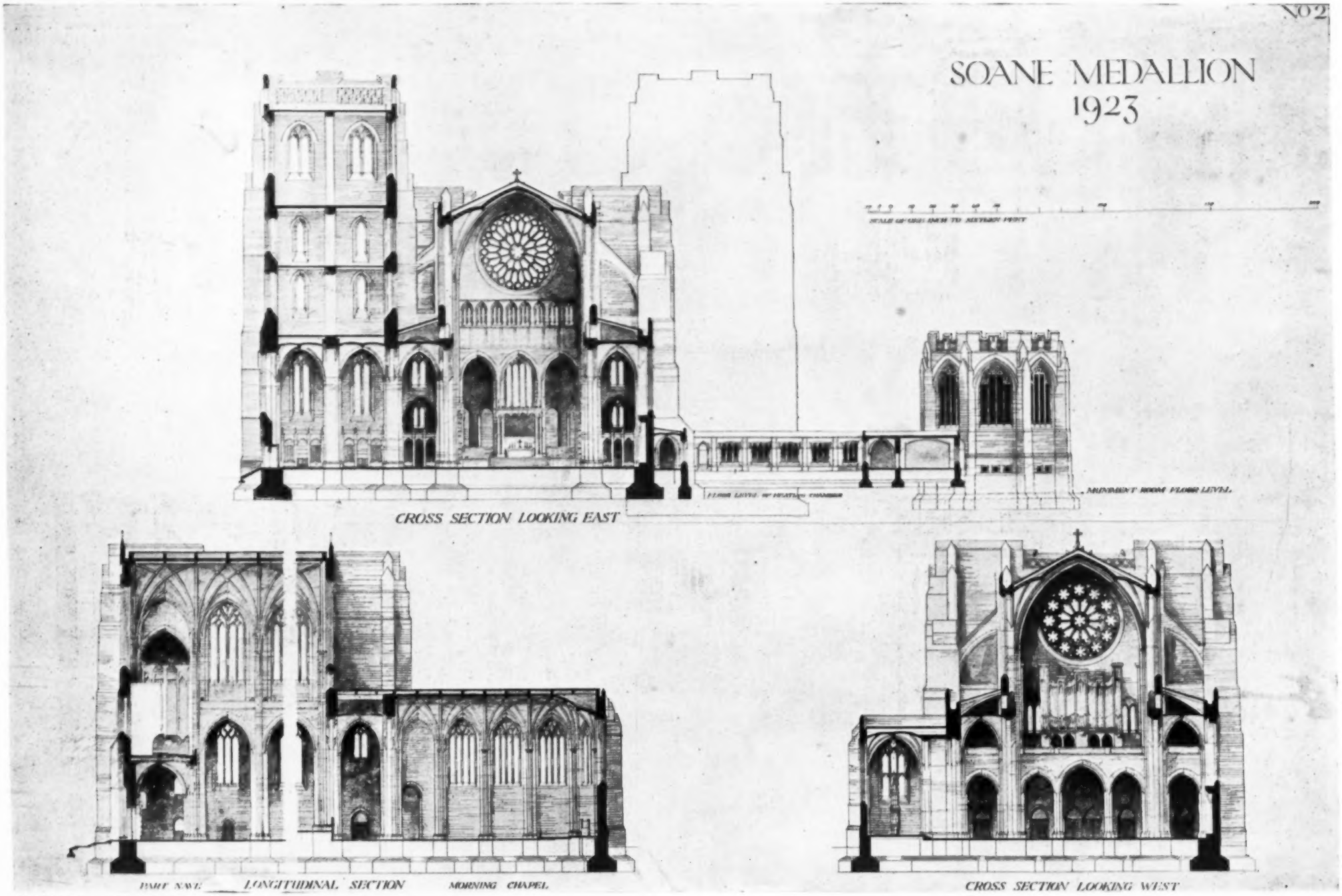
Dudley Memorial Competition.

Design Placed First: By Messrs. W. Alexander Harvey, F.R.I.B.A., and H. Graham Wicks, A.R.I.B.A.



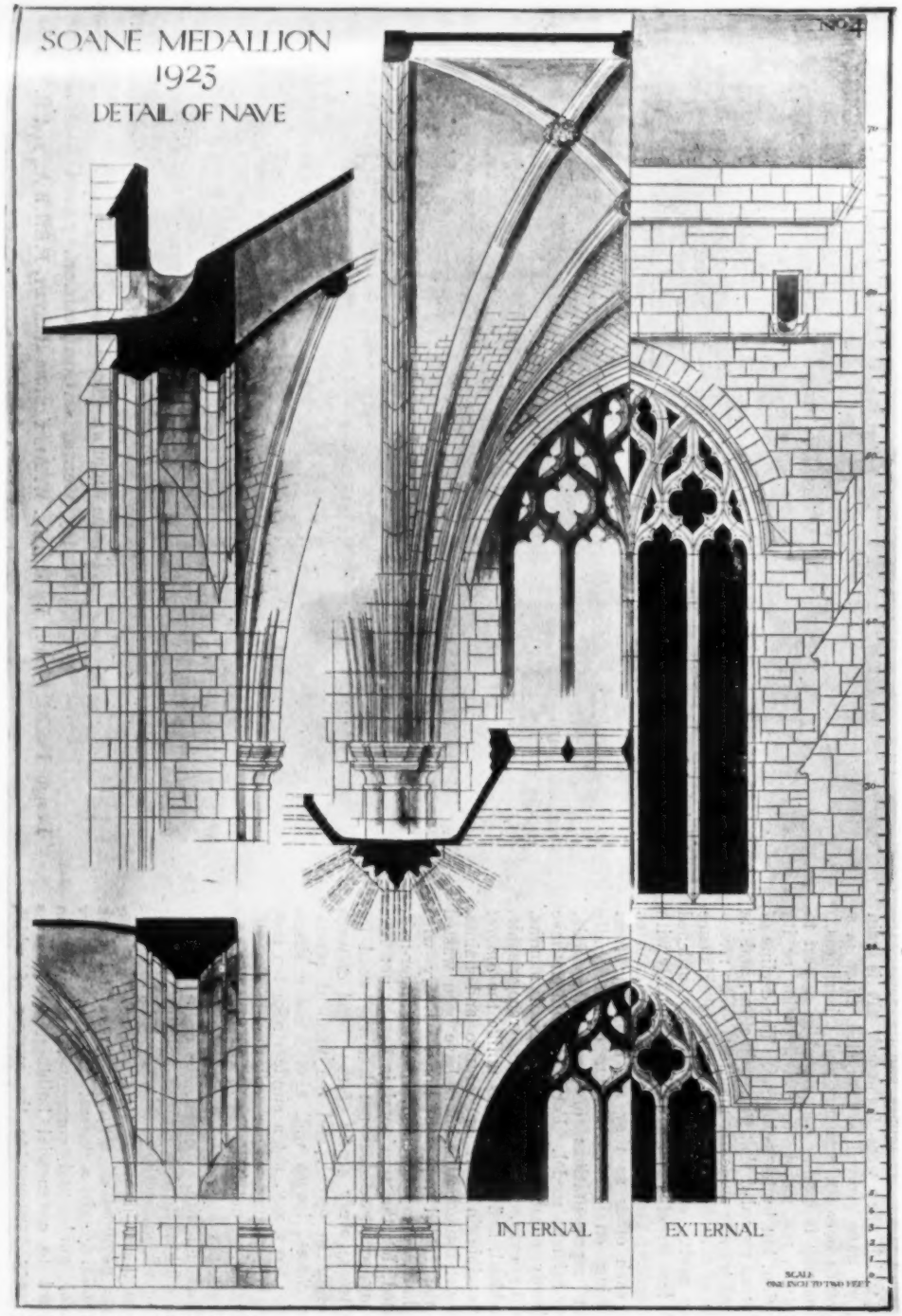
R.I.B.A. Prizes and Studentships.

Design for an Anglican Church. By MR. J. S. KELSALL: Awarded Soane Medallion and £150.

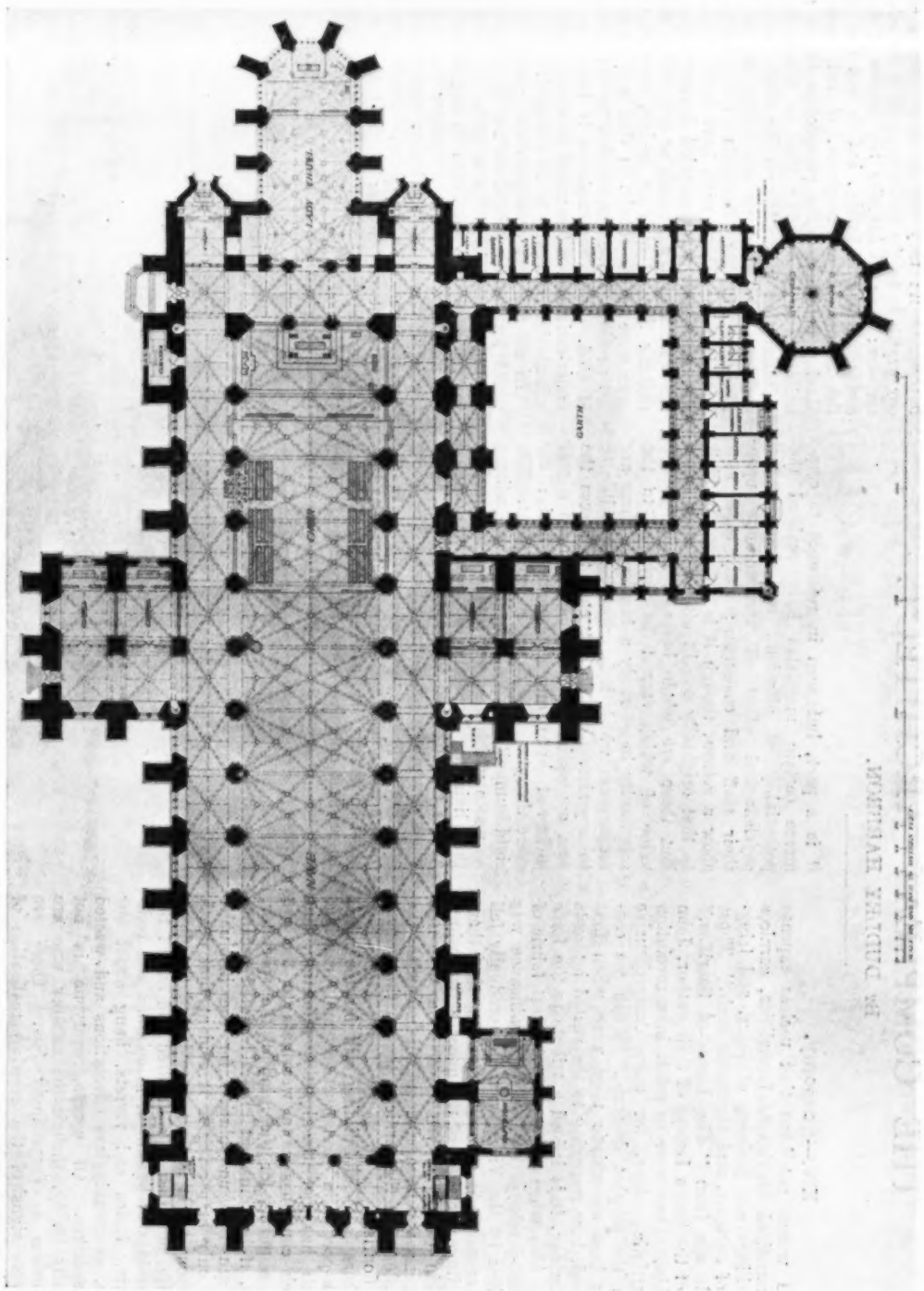


R.I.B.A. Prizes and Studentships.

Design for an Anglican Church. By Mr. J. S. Kelsall: Awarded Soane Medallion and £150.



R.I.B.A. Prizes and Studentships.



Design for an Anglican Church. By MR. J. S. KELSALL: Awarded Soane Medallion and £150.

THE COMPLEAT ARCHITECT.

By DUDLEY HARBRON.

XIV.—Economy.

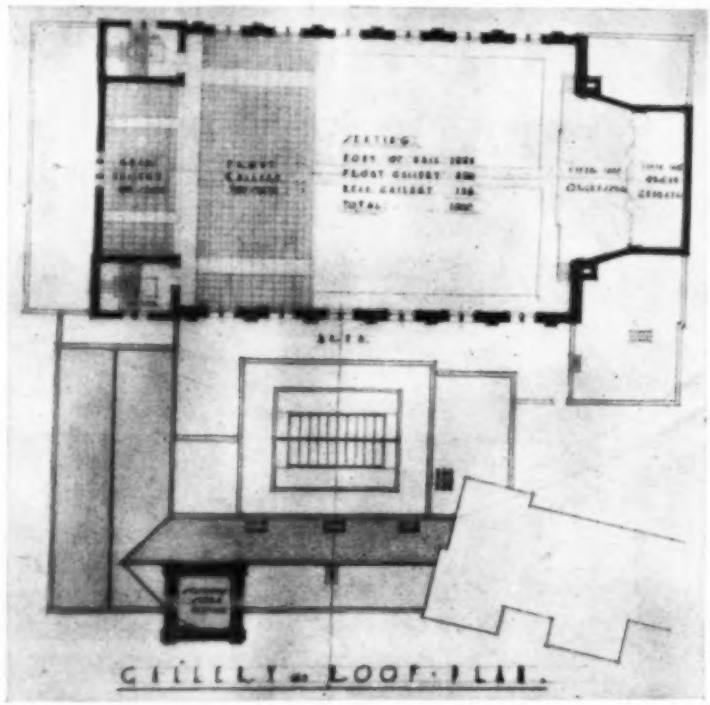
"I WOULD not have that useless expense in unnoticed fineries or formalities, cornices of ceilings and graining of doors, and fringing of curtains, and thousands such." These words are from "The Lamp of Sacrifice," one of the Seven Lamps of their author, John Ruskin. They were to result in a revolution of artistic values, far more comprehensive than the prophet dreamed. When we consider how anarchistic they were when first uttered, how menacing to the vested interests of the day, it is indeed a tribute to the force of an idea when we remark the vast fabric of mumbo-jumbory that, as its significance was realised by the Victorian mind, gradually fell away; nor is it entirely surprising that there still linger vestiges of the queer heresy which Ruskin exposed. We have done with the fringes; we have almost finished with the graining; but the cornices, though threatened, still flourish.

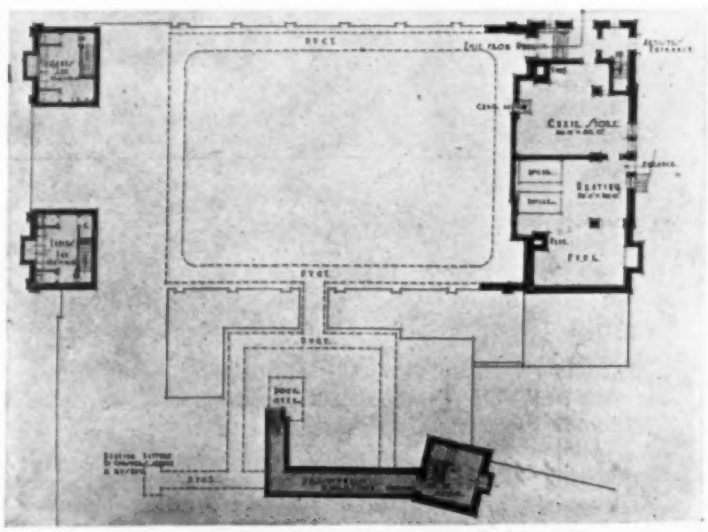
There is about building still far too much hocus-pocus in construction and carving, which has not the least justification, but which continues as a weariness to the eye and a puzzle for the mind of the spectator, who, if he thinks at all, is irritated because he can find no solution for the insoluble. Not only in carving is it evident that death is upon it. It is long since it had the flame of life, but, that in a hundred and one of the trimmings of buildings, in columns and pediments, domes and turrets, hang about our ears, as meaningless affectations and wasted expenditure. Of course, everyone is not equally guilty, though the number who are blameless is surprisingly few. There are obvious signs of the growing realisation of the important influence of economy, in that creators are eliminating every vestige of needless form and ornament, yet they persist in retaining non-committal square plinths, string courses, pilasters and cornices, very evidently the result of the tee-square and the set-square with which they were fashioned. It is gain that we have evolved so far; still, there is a difference between economy and miserliness.

Economy is readily considered in respect to sculpture, not merely by its profusion or its omission, but by its technique. The decline of sculpture preceded that of architecture, and its revival is more evidently manifest. Who recognises as ever having had a separate existence those pretty curly-haired cherubs, burdened with rose wreaths and wrestling unequally with cartouches; they are stock properties, each as like each other as they are dissimilar from anything on earth, blindly, conventionally exact representations of some impossible, never-existent model. For real children have curiously misshapen heads, comical mouths, pig-like eyes, protruding ears, recognisable, individual, and adorable, as unlike the *amoret* as possible in their appearance and habits. And yet innumerable hours have been wasted on the fabled representations. Every wisp of hair, every eyelash, every finger-nail, wasted, for the sum total is death, not life. Living sculpture does not lose the wood for the trees: every stroke of the chisel disturbs in order to reveal, and the moment revelation comes, leaves well alone: not a single stroke too many, not a single stroke too few, that is economy. Representation is the aim of sculptors, not imitation. It is equally true of building.

That ubiquitous person, the ordinary man, who delights to dub himself practical, regards the question, as he rightly considers, in the unemotional light of high finance, the adequate payment of return upon capital sunk in building. In a general way this is a very useful guide and corrective, especially in regard to commercial building, which owes its very existence to the system of which it is a part, but even in reference to commerce certain magnates have realised the potentiality of altruism, and latterly the psychological effect of surroundings upon their staff and customers; truly these still show a return, though it is different in kind to that originally sought after by their kind. But there are whole hosts of buildings the value of which cannot be reckoned to the community in so ready a fashion. There are monuments which it is entirely impossible so to appraise. We do not care to assess the sum appropriate to be expended upon a war memorial upon any commercial basis: the mere thought of so doing is repugnant. The rigid humanitarian looks upon any expenditure as waste which does not supply some need of the living. Expenditure upon triumphal arches and artificial mounds will never again reach the proportions of the past. The booty and the captives are not available to the victors in modern war. We require that they shall be lasting, because they are intended not to remind ourselves, but future ages. They are not to glorify the present, nor yet to impoverish it: they are to bear witness to our gratitude to the sufferers, not to the subscribers; thus to inscribe the names of the commemorated is fitting, but to add that of the donors is extravagance, if not worse. Having determined the prospective life of a building, it is economy that so selects the material that it shall serve its time, neither perishing too soon nor subsisting too long. Economy further demands that neither materials nor labour shall have been abused. The cathedrals were afforded in times when the wealth of the Church or the nation was nothing like so high as to-day, because all men were of the conviction that nothing was too precious to be consecrated to the service of God. But over-emphasis is balanced by under-estimate: a treatment unworthy and insubstantial is equally to be deplored.

In all the arts economy is a quality after which the creator should strive. Instinctively we are repelled by extravagance. In etching we recognise the maximum in suggestion by the minimum of lines. In poetry we require the crystallisation of wisdom and emotion. Architecture is no exception. The Spartans did without city walls: possibly they over-exaggerated the art of repression. Though they escaped the vulgarity of Rome they failed to attain the sublimity of Athens.





LOWER GROUND FLOOR PLAN.

Dudley Memorial Competition.

Design Placed First: By MESSRS. W. ALEXANDER HARVEY, F.R.I.B.A., and H. GRAHAM WICKS, A.R.I.B.A.

PRACTICAL DESIGN FOR BUILDING CONSTRUCTION—III.

AN ELEMENTARY EXPLANATION OF THE APPLICATION OF THE THEORY OF CONSTRUCTION TO PRACTICAL DESIGN.

BY EWART S. ANDREWS, B.Sc., M.I.Struct.E., A.M.Inst.C.E.

SECTION 1. WALLS AND FOUNDATIONS (continued).

Pressures on Foundations.

The design of the foundations of a building is a matter of very great importance and sometimes of considerable difficulty. We like to distinguish between matters of real difficulty and those of difficulty in the sense of complexity. Many of the calculations for steel stanchions and continuous reinforced concrete beams are complicated and difficult in the sense that it takes some considerable amount of study to become familiar with them and the calculations are sometimes lengthy; but we are quite confident in the results, and the difficulty is not real in the sense that we cannot obtain sufficient reliable data to guide us. In the case of foundations, the calculations themselves are not at all difficult, but the difficulty lies in deciding upon what should be taken as the safe pressure on the soil and whether the soil is constant in resisting power over the whole site.

Another difficulty arises with foundations upon clay soils that the clay in some cases seems to move bodily, sometimes by one stratum sliding over a lower inclined stratum or by the movements caused by the differences in volume according to the amount of moisture in the soil. In very dry summers the bay fronts of houses built upon clay soils sometimes develop the unpleasant habit of dissolving partnership with the main portion of the house, and other troubles arise for which it is a matter of real difficulty for the architect to advise a certain remedy without incurring great expense. Certain principles can be adopted which will minimise the troubles due to unequal settlement, which is the greatest trouble, there being little danger if a building settles uniformly.

With this in mind, the foundations should be so proportioned that the pressure per square foot thereon is as constant as possible. This is done by calculating the loads coming down the various walls, piers and columns when the floors of the building are fully loaded and making the areas of the foundations proportioned to the loads.

We should remember that most buildings are seldom fully loaded to the full extent for which the floors are designed, so that at any time the actual pressures on the soil are less than those which we calculate; except in certain warehouse buildings, therefore, which commonly carry heavy loads over long periods, we have a margin of safety in our foundations which does not appear in our calculations.

Safe Pressures on Soils, &c.

The following figures are usually taken as the safe pressures which may be assumed in calculations, the figures being in tons per square foot:

Made ground	0·5
Soft clay or loose sand	1
Ordinary clay or compact sand ..	2
Blue clay, compact gravel or chalk	4
Soft, friable rock	5
Ordinary rock	10
Hard rock	20

In cases in which heavy loads have to be carried or in which the subsoil varies on the site, the bearing power can be measured experimentally by loading cylinders until they sink in; working pressures may then be taken as about one-fourth of the values thus taken. These tests should be made at the depth at which it is proposed to make the foundations, and it should be remembered that the pressures on large areas should not be taken as high as those measured on small areas.

In one of the most serious failures in foundations which have occurred in recent years, namely, that of a grain elevator at Winnipeg, Canada, the pressure on the foundations was less than that given by loading tests on cylinders, and it is usually regarded that the trouble was due, in part at least, to failure to reduce the pressure to allow for the large area over which it acted. A study of this failure is well worth the attention of all interested in the subject of foundations; an account will be found in a paper by Mr. Lawson S. White, in the Proceedings of the Concrete Institute, 1921.

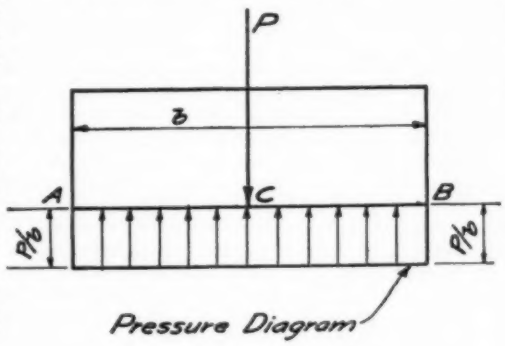


FIG. 3.

Calculations for Intensity of Soil Pressure.

If we know the total pressure upon a foundation we calculate the intensity of pressure according to the one of the following rules which is appropriate.

(*a*) *Pressure Central.*—In this case, as illustrated by the pressure diagram, shown in Fig. 3, the pressure is uniform over the whole section.

It is usual to consider the pressure on foundations per ft. of their length. If P is the pressure per ft. length, the intensity of pressure (p) on the soil is given by dividing the total P by the breadth (b) of the base; expressing this in terms of a formula we have:—

$$\text{Intensity of pressure} = p = \frac{P}{b} \qquad (1)$$

(*b*) *Pressure Eccentric but Inside "Middle Third."*—Now, suppose that the resultant pressure P comes eccentric, but inside the points X and Y, Fig. 4, which are called the *middle third points*, and are each at a distance equal to $\frac{b}{6}$ from the centre so that the distance between them is one-third of the base.

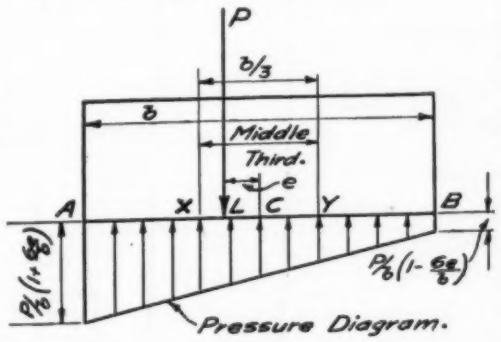


FIG. 4.

The effect of the eccentricity of the load is to cause the intensity of the pressure to become greater on the edge A, nearer the *load point* L, at which the line of the resultant pressure cuts the base than at the other edge B, the intensity of pressure gradually decreasing from the edge A to the edge B, as shown on the pressure diagram.

The maximum intensity of pressure occurs at A and is obtained by multiplying the mean intensity of pressure (which is equal to the total pressure P, divided by the breadth b) by the quantity $(1 + \frac{6e}{b})$ i.e.:

$$P \max = \frac{P}{b}\left(1 + \frac{6e}{b}\right) \qquad (2)$$

The minimum intensity of pressure occurs at the edge B, and is given by the relation

$$P \min = \frac{P}{b}\left(1 - \frac{6e}{b}\right) \qquad (3)$$

We must wait for a later stage of the subject before we explain why it is $\frac{6e}{b}$ that is added to allow for the eccentric effect of the load, but will remark that it is due to the application to this problem of the formulæ for beams, a wall being really a form of vertical cantilever.

We will note that if the load point L comes at the extreme edge X of the middle third we have $6e = b$ and the intensity of pressure at the edge A becomes equal to $\frac{2P}{b}$ and that at the edge B becomes zero, the pressure diagram becoming a triangle.

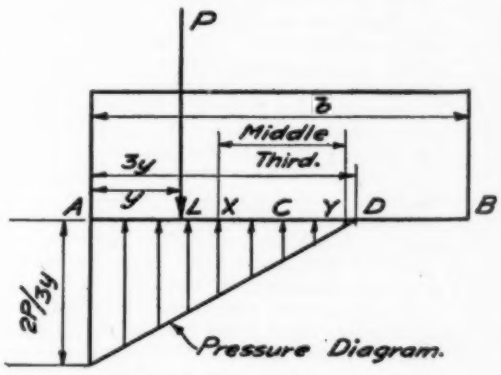


FIG. 5.

(*c*) *Pressure Eccentric but Outside "Middle Third."*—In this case, Fig. 5, we take a length A D equal to three times the distance A L of the load point L from the edge A, and assume that the intensity of pressure is spread over the length A D and varies uniformly from the edge A to the point D.

The pressure diagram thus becomes a triangle and the maximum intensity of pressure is obtained by dividing twice the total pressure by three times the distance from the edge to the load point.

This is expressed in symbols by the formula

$$P \max = \frac{2P}{3y} \qquad (4)$$

This is sometimes called Wray's rule and is very useful and based upon a reasonable assumption.

In all cases of these pressure diagrams it should be noted that the area of the pressure diagram represents the total pressure P and that the line of action of the total pressure will pass through the point called the centroid of this diagram.

Memorial at Monchy.

The Isle of Wight County Committee for assisting Monchy-le-Preux under the British League of Help met recently, Major-General Seely presiding, to inspect drawings prepared by the Chairman's son, Captain John Seely, of the ancient Lych Gate at Mottistone, Isle of Wight. They were approved as a visible and permanent memorial of the island's help, to be erected at the entrance to Monchy Cemetery, and the Committee regarded them as admirably suited to the purpose.

The chairman said it was proposed to introduce in the design of the gate some old panelling of the time of James the First, which had just been found and which probably came from old Brook House, which once occupied the site of his present island residence.

THE ARCHITECTS' AND BUILDERS' INQUIRY BUREAU.

Solid or Hollow Ground Floors?

SIR,—Your inquirer "Economist" is interested in the search after economical methods in the construction of the small house. He notices that whilst the architect prefers solid ground floors, the speculating builder almost invariably favours the old system, or rather, what "Economist" terms the old system, of light joist on sleeper walls. Though why he should designate this the old system is not quite clear; for, if the enquiry were to be made, it is quite possible that it would be found that a far greater proportion of old cottages had solid floors than framed floors; if, indeed, it were not proved that the hollow floor was quite a recent innovation of no greater antiquity than the early Victorian period, that time when so many cheap and nasty things were introduced.

Possibly the most satisfactory way of arriving at what is most economical in building small houses is not by comparing the methods of the architect with those of the speculative builder, for their interests are obviously opposed. But, as the comparison has been made, and "Economist" desires information as to the cost of the two methods, it may be pointed out that there is no real difference in the cost of the two methods of construction, provided that each is properly performed; and that it is just this opportunity that the hollow floor affords for improper construction that leads the speculative builder to favour it. Given a site more or less level and with a satisfactory subsoil at not more than three feet below ground line, and as has been said a proper method of construction in both cases, it is quite within the possible that the solid floor would work out the cheaper. The point as to the proper method of construction is somewhat stressed, as it is just the opportunity that the hollow floor affords for scamping that has led to its popularity in certain instances.

In the formation of any kind of floor the first essential is the removal of all vegetable soil from the whole of the site of the proposed house; and in both cases, hollow or solid, the second essential is the laying in of a solid bed of concrete, never less than 9 in. thick. This, in the case of the solid floor, becomes the foundation on which the surfacing for the wood blocks or other flooring is laid, and in the case of the hollow floor it becomes the foundation for the sleeper walls. But in the latter instance, it has a far more important function to perform. This may be shortly described as the exclusion of damp, vermin, and vegetable growths. Here it may not be out of place to refer to an incident which came under the notice of the writer, as it has a very definite bearing on the point under discussion, and is illustrative of the result of omitting the "all-over" concrete foundation. Bad smells had for some time troubled the nostrils of the occupants of a house in one of those rows that spread like measles before the war; and these were particularly offensive in the kitchen. Bad drains were feared; but an inspection led to no more satisfactory discovery than that the drains were as they should be. This, in itself, was satisfactory, but it did not remove the trouble. Time passing and the trouble growing worse, the cook one day reported that one of the floor boards in the kitchen where she had for some time noticed an unevenness, had now by some invisible agency been raised up right out of their proper seating. The sequel has to be seen to be believed; nevertheless, it is a fact. When the floor board was prised up it was found that the cause of its eruption was a very healthy plant of horseradish! But that was not all that was revealed to sight. The whole area beneath the kitchen floor was a miniature forest of fungoid growths!

This, of course, was the result of the vegetable soil not having been removed at the time of erection, and the omission of any surface concrete. Of the two, the removal of the vegetable soil is, perhaps, more important than the surface concrete, though, of course, the latter should never be omitted; but if one of the two had to be dispensed with, it would be the concrete surfacing. For so great is the strength and vitality of certain of the deep rooting plants that they have been known to grow through a 9 in. paving to a stable yard.

It was said above that, given equal conditions of an average site, perhaps there would be very little difference in the cost of the two methods. This brings me to the point as to why the solid floor is more suitable in some cases and the hollow in others. Obviously, if the top soil was very deep, and considerable excavation was necessitated to arrive at a suitable foundation, to refill with other soil, rubble or concrete would be altogether too expensive. And as a solid floor should never be built below ground level, unless it is in a basement, where the added accommodation will compensate for the additional expense of waterproofing the horizontal walls below ground level, in such an instance as this it would obviously be cheaper to lay in 9 in. of surface concrete all over the excavated area, and to build sleeper walls and bridge over with a joisted floor. On the other hand, if the top soil is shallow and a good hard sub-soil suitable to build on is soon reached, it is a matter open to doubt if the hollow floor would work out very much cheaper, if at all; and certainly there can be no two opinions as to the much greater satisfaction to be gained from the solid floor.

"Economist's" next point raises a question, the satisfactory discussion of which would possibly necessitate the occupation of more space than is at the disposal of the Enquiry Bureau. The distinction between the water due to condensation and that due to the percolation of damp is a very large and difficult subject, and one on which a book might well be written.

In the present instance, it might be permissible to ask if "Economist" can give proof that the moisture that has been complained of as gathering under the linoleum is due to condensation at all, and not to percolation; for if the floor in question is entirely covered by linoleum it is not easy to see how the solid floor underneath can condense water from the air, for, surely a surface, to act as a condensing surface, must be exposed to the air. On the other hand if the damp be due to percolation, it raises the whole question of water-proofing, and into this might come the question as to whether there is any really satisfactory method of the entire exclusion of damp from percolation through concrete surfaces known to the building trade?

London. N. B. H.

SIR,—Your correspondent "Economist" is certainly correct in stating that the speculative builder favours the old fashioned joisted floor on sleeper walls, and it is safe to a certain extent to take this fact as an index of relative cost. It is taken for granted that the term speculative builder is intended to mean a man who builds the cheapest sound work to sell, and not our old friend "Jerry."

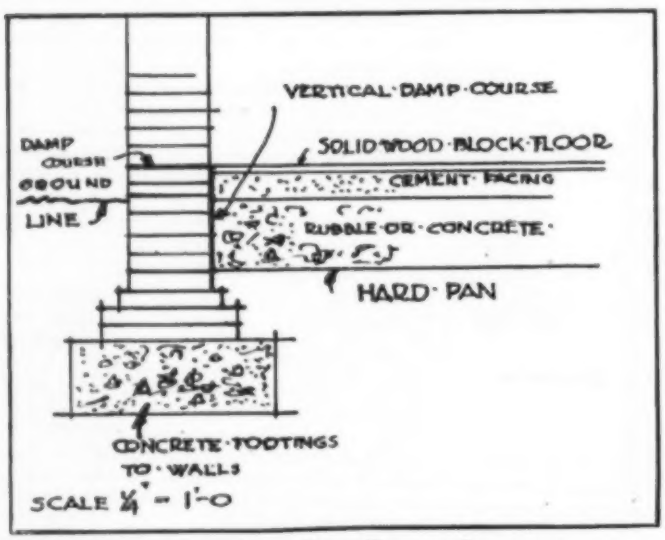
Surface concrete is intended mainly to arrest vegetable growth and its purpose is adequately fulfilled by a very mild mixture of lime concrete. The concrete under a solid floor must be, on the contrary, a very efficient damp resister, accurately laid and levelled, and quite possibly of double the cost of ordinary surface concrete. Honeycombed sleeper walls, which rest direct on the surface concrete, are a very minor matter of expense, as are the light floor joists.

I think there is little doubt that the hollow floor has it every time.

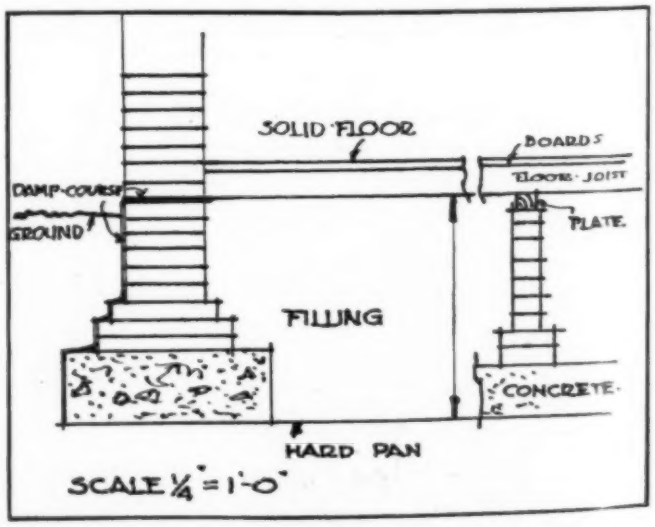
"INTERESTED."

SIR,—The question of solid or hollow ground floors is a very important one.

The complaint is often made against the solid floor that it is colder than a hollow one, but if the concrete is covered with boards and as wood is an excellent non-conductor, I do not see how this alleged defect can be a real one. Where the subsoil is naturally damp a good layer of broken



CONDITIONS WHERE A SOLID FLOOR IS SUITABLE.



CONDITIONS WHERE SOLID FLOOR WOULD BE SUITABLE.

THE DIAGRAM ON THE RIGHT SHOWS HOW HOLLOW FLOORS WOULD BE PREFERABLE IN SUCH CONDITIONS.

Solid or Hollow Ground Floors. (*See Reply by* "N. B. H.")

brick or stone under the concrete will serve to keep the concrete dry and so minimise loss of heat downwards. Mr. E. E. Smith is content with square-edged boards, but is it not advisable to have them tongued and grooved, so that in the event of some of the nailing not holding well there is less likelihood of boards becoming loose?

I am surprised to see that in Mr. Smith's experience the two types of floor are about equal in cost, because if the damp-proof course is kept at the same height above the ground level in both types, the floor level of the hollow floor must be higher than that of the solid floor, otherwise the fresh air inlets will have to be cranked and their efficiency impaired. This increased height means one or two extra courses of brickwork to every wall and partition, which would appear to put the balance of cost in favour of the solid floor. In addition, all houses require some portion of the ground floor to be solid, at scullery, &c., and when the solid and hollow meet there is trouble with the damp-proof course, and the fresh-air flues require to be carried through the solid portion, all of which adds to the cost.

The coating of pitch and tar required to the solid floor must be very carefully done; a few square inches missed—and there is great danger of this around hearths—may result in an outbreak of dry-rot, from which solid floors are not immune.

Taking everything into account, the balance seems to be in favour of the solid floor.

J. GRIEVE.

Hot Water Circulation Pipes.

SIR,—I should like to take advantage of the new column you are devoting to enquiries, to ask the following question:—

What is the best method to run the hot water circulation pipes in a bungalow? The boiler is behind the kitchen range, but the cylinder is fixed in the bathroom on the same floor level; in order to reach the cylinder, it is necessary to pass a door, which ever direction the pipes are run.

Is it possible to arrange pipes with the cylinder fixed on the floor level, and still ensure a good circulation and hot water supply?

STUDENT.

Huddersfield.

Damp on Ceilings.

SIR,—The explanation asked for by Mr. Ernest Matthews is very simple. During the rough weather we had the wind was north and east, accompanied by very fine snow and sleet, which was driven under slates and tiles (where not felted or torched) in numerous cases, and laid on the top side of plastered ceilings until it thawed and showed through into the room.

WILLIAM BROWN.

Luton.

SIR,—Your correspondent hardly gives enough information to advise him in his difficulty. He does not state whether the roof, in question, is high or low pitched. Also the covering, whether slates or tiles? If a store cistern is fixed in the roof? If there are rooms above those, where the damp stains appear? Whether there are parapet gutters; eaves gutters; or a centre box-gutter passing under the house from front to back?

The position of the stains on the ceilings would, to some extent, locate the defect; although rain-water is sometimes blown along by the wind, and does not always reveal itself at the place of entrance. Rain-water and wind, are the two enemies to roofs. There is a cause for every abnormal state of affairs, and the best advice to give is, to find out the cause and apply the remedy. To put the whole case in a nutshell, it would be well to have an examination made (if this has not been done) as near the damp stains as possible, when the source of the evil may be traced. The roof is the crowning member of a house, and requires constant attention.

ANDREW SOUTH.

Kingston-on-Thames.

SIR,—There seems to me little doubt but that your correspondent, Mr. Ernest Matthews, of Polegate, has had a snow drift on the particular ceiling where the damp showed through.

This may be caused through the tiles not being torched, or perhaps bad places in the torching, especially behind the rafters.

It seems the foolish practice of the architect to-day to specify tiles to be laid to a four-inch gauge and not to have them torched, whereas before the war it was the usual practice, even with jerry work, to specify them to be laid to a three-inch LAP and to be TORCHED with hair mortar. If necessary then, why not now?

I assume from the district that this would be a tiled roof; our friend does not give the necessary information.

GEORGE GODDARD.

Cost of Walls.

SIR,—I shall be very much obliged if you can give me any information with regard to the comparative cost of walls in buildings built of hollow porous terra-cotta partition blocks (12 in. by 9 in. by 2½ in. or 3 in.) and ordinary brickwork.

H. M. S.

London.

Housing Subsidy.

SIR,—I am intending commencing business as a builder and shall build houses of a type costing from £600 to £700 each (detached), exclusive of ground.

Can you tell me if there is any grant or subsidy towards the cost of this type of house, and will you tell me where I can obtain all information of this sort?

GEO. A. BRIERLEY.

Reply.

[We would refer you to the Housing Act, 1923, and to Circulars 388A and 471, issued by the Ministry of Health and published by H.M.S.O., Imperial House, Kingsway (2d. and 1d. respectively). Both of these explain the extent to which local authorities can assist builders. Before taking action it is desirable to ascertain that the local authorities will help you to the extent they are allowed by the Government. Assistance is not, we understand, given direct by the Ministry of Health.]

Plans and Specification.

SIR,—In reply to your correspondent "Perplexed," of Neath, where drawings and specification are at variance it is usual to decide in favour of the latter, provided both are contract documents and duly signed as such; as the specification should be a concise explanation of requirement indicated on the drawings.

A. E. FLOWER.

Croydon

SIR,—Your correspondent, "Perplexed," quotes a striking instance in which a trifling 2½ per cent. appears to have been saved with after regrets.

A builder would naturally refer ambiguities to a supervising architect for his ruling, though when dealing with a layman he will choose the easier way.

The panels of a 4-panel door can be got out of single-width stuff, and so he wisely keeps quiet and makes the doors.

Where drawings and specification form the basis of the contract they each, in many respects, hold an equal authority unless the latter defines their "order of merit" or appoints a source of appeal.

I think "A" must make up his mind that in this case he has no redress, and must look upon the 4-panel abominations as a standing object-lesson as to the wisdom of putting such matters under the control of a trained man.

"ARCHITECT."

Cement Concrete Partition Slabs.

SIR,—In answer to "Query," I should consider that using good mortar and the best class of material, 4 in., 6 in. and 9 in. blocks may be safely used to the height and length of wall allowed in the L.B.A. or Model By-Laws for brick walls 4½ in., 9 in. and 14 in. respectively, taking into consideration a keyed bed and joint.

I should not personally build 3 in. work for a greater length or height than 13 ft. without intermediate stiffening. I look upon 2 in. slabs as suitable for small division walls, such as w.c. divisions about 6 or 7 ft. wide and high.

I should not use the 1½ in. slab for more than such small patches as stair spandrils, &c.

It is advisable in 3 in. and thinner work to carry a stud each side of a doorway up to the ceiling joists and secured to same, the portion up to door height having grounds nailed on each side to clip the slab. In cottage design, quite a pleasing feature can be effected in much the same way by carrying the door frames up to the ceiling as exposed timbers, the back of the frames being grooved out 3 in. wide to grip the slab.

These methods are a great source of strength.

Generally speaking, a doorway may be said to reduce the linear strength of a slab partition to about one-third that of a similar uninterrupted partition in walls of ordinary height (say 8 to 10 ft.) unless stiffened as suggested.

"CONSTRUCTION."

Brick-Making Machinery.

We are sure that Mr. Harrison, with the remainder of our readers, will appreciate that the gratifying popularity which this Bureau has so quickly gained, makes it necessary for us to limit the scope of these columns to matters of more general interest to the building fraternity.

Mr. Harrison will, no doubt, find little difficulty in obtaining his information through the usual channels.

THE MASTER BUILDERS OF ROME.

ETRUSCAN and ancient Roman architecture formed the subject of the first lecture of the Lent course given by Sir Banister Fletcher, F.R.I.B.A., at the Central School of Arts and Crafts, on January 16. He pointed out that Roman architecture proper covered five centuries (100 B.C. to A.D. 400) during the time when the world-wide Empire of Rome was at the zenith of her greatness. Then Italy was rich in building materials—white and coloured marbles of her own quarries, abundance of building stone and brick-earth for terra-cotta, granite from Egypt, porphyry from Greece, and all the glowing marbles from the coasts of the Adriatic and the Mediterranean. An expanding Empire, and a complex civilisation, gave birth to a variety of building needs, to meet which the Romans invented a new composite material, which was made up of broken stone and Pozzolana cement and poured like a household jelly into shapes and left to set. Then the wooden casing was removed, and the concrete remained hard and rigid. The invention and use of this material was the great outstanding fact in the structural aspect of Roman architecture; for this quality of rigidity made it possible to span great areas with domes and vaults of concrete. Thus these complicated types of buildings broke away from the simple trabeated style of the Greeks. This revolution in methods and plans opened the way for great utilitarian works, such as city aqueducts and cisterns, military bridges, public baths, and imperial palaces, some of which were allied to engineering undertakings.

These splendid Roman structures, often so complex in plan, were yet symmetrical, for they were planned on axial lines, which gave long vistas and an appearance of unity. The circular weep of the Pantheon also showed that the old Roman architects could command, as well, the perfection of simplicity. Sir Banister laid stress on the composite origin of Roman architecture, for it was a union of the old native Etruscan arch and vault with the Greek column, to which the Romans added their own cross vault and dome. Above all, it was evident that their idea was not Art, but Empire—it was not so much to create a thing of beauty as to produce a lasting evidence of power.

LEGAL SECTION.

NOTES ON CURRENT CASES.

Building Estates and Restrictive Covenants.

A CASE was reported in the *Times*, December 22, Kelly *v.* Barrett, which raises questions of interest to those acquiring land on building estates.

The action was brought by Edward Kelly, Sir Spencer Maryon-Wilson being added as another plaintiff, against the defendant in the following circumstances: In 1877, Kelly and his brother, since deceased, were carrying on business as builders, and by an agreement, dated May 14, 1877, Sir Spencer had agreed to sell to them certain land on the east and west sides of Fitzjohns-avenue, and by this agreement Messrs. Kelly agreed to erect houses on the premises, and it was provided that the whole of the premises or separate plots should be conveyed to Messrs. Kelly or their assigns according to model forms of conveyances and be subject to certain restrictions and stipulations. Some 28 plots, including that on which subsequently the defendants' house was erected were conveyed to Messrs. Kelly, but others had been disposed of to subpurchasers who either had erected houses thereon, or had taken conveyances from the vendor after Messrs. Kelly had erected houses thereon, but all the conveyances were substantially in the model form, and the plaintiffs alleged that each subpurchaser was aware of the agreement of May 14, 1877, and of the restrictions and stipulations contained in it, and that they well knew that the restrictions and stipulations contained in the conveyances were intended by the vendor and by Messrs. Kelly to be for the benefit of all the plots and other land comprised in the agreement and that Messrs. Kelly and the sub-purchasers purchased upon that footing.

The conveyances to Messrs. Kelly of Nos. 40 and 42, Fitzjohns-avenue, the houses in question in the action, were substantially in the model form, each containing a covenant by Messrs. Kelly with the vendor, his heirs and assigns, owners for the time being of the site and soil of Fitzjohns-avenue (amongst other things), that no building other than buildings of a certain description to be used for private residences should be erected on the land, or when erected should be otherwise used.

In 1880, No. 40 had been conveyed by Messrs. Kelly to one Horner, subject to the above covenants and conditions, and the purchaser covenanted for himself, his heirs and assigns, to observe the same and to indemnify Messrs. Kelly against any breach. In 1881 No. 42 had been conveyed to one Harris on similar terms, and both these properties had since become vested in the defendant in this action, as the report says, "with notice of the restrictive covenants," but no other particulars are given.

The breach of covenant complained of was that the defendant had thrown the two gardens into one and converted the houses into a nursing home, and was so using them in breach as it was alleged of the covenants as to private dwellings.

The plaintiff Kelly was the owner of a large number of plots adjoining Fitzjohns-avenue, as to one moiety for himself and as to the other moiety as trustee of the will of his brother. Sir Spencer Maryon Wilson was the tenant for life of all the real estate of which his father died seized, and the plaintiffs alleged such real estate included the site and soil of Fitzjohns-avenue, and that they "or one of them" were entitled to the benefit of the covenants.

According to the report the learned judge stated that the plaintiffs had framed their case in three ways—(1) on behalf of the plaintiff Kelly it was said that the dealings by the Kelly's with the land they had bought from Sir Spencer were such as to constitute a scheme under which all the purchasers from them intended to contract with them and with each other to abide by the various stipulations which were imposed on the subsales, but the Court held on the evidence this view of the case could not be supported; (2) that each of the subpurchasers who took a conveyance directly from the vendor, had constructive notice of the agreement of May 14, 1877, and that notice of that agreement taken with the form of the conveyance was sufficient material upon which to infer the existence of a scheme whereby mutual covenants between such subtenants and the Kelly's were imposed. On this point the Court pointed out that there was nothing to show from start to finish either that the estate was ever intended to be laid out in defined plots or that the Kelly's were not free at any time after they had sold one or more plots to deal with the residue of the estate in any way they pleased, provided they could get from the vendor his consent to a variation of the original agreement, and the Court held that to give effect to this view contended for the Court would have to hold that each subpurchaser was willing to make himself liable not merely to the vendor, but to use the words of Mr. Justice Farwell in Osborne *v.* Bradley (1903, 2 Ch. 440) "also to unknown persons indeterminate and indeterminable in number in respect of plots of the particulars of which he knew nothing—that he had entered blindly into a bargain of which he could not possibly know the particulars," and there never had been a case where upon such indefinite material a scheme had been held to exist. The Court referred to Reid *v.* Bickerstaff (1909, 2 Ch. 305; *The Builder*, July 10, 1909), and held the material was too indefinite to constitute a scheme.

The third ground of claim related to a point for which Sir Spencer has been added as plaintiff as he claimed as tenant for life under the will of the vendor, but the Court found against this claim mainly on the ground that as the roadway of Fitzjohns-avenue had been taken over by the local authority, and as this would vest in that authority so much of the actual soil in the avenue as might be necessary for using it and maintaining it as a street (Mayor of Tunbridge Wells *v.* Baird, 1896, A.C. 434), the plaintiff could not show that the surface was vested in him or that he sued in respect of the estate and interest which belonged to his predecessor or that the restrictions touched such land as he now had, but the Court further intimated that even were this point not rightly decided, yet in such circumstances it would be oppressive to grant an injunction.

Possibly this case will be reported more fully subsequently in the Law Reports, when we shall be able to explain it further, for these cases of restrictive covenants in laying out estates are of considerable importance to our readers. All that we can say at present is that in the case Elliston *v.* Reacher (*The Builder*, September 2, 1908) certain guiding principles were laid down for application in such cases which may elucidate the findings in this case.

In the issue above referred to we summarised these principles, (1) Both plaintiff and defendant must derive title from a common vendor. This was the case in the case we are considering so far as the particular parties to the action were concerned, but it appears that parts of the estate had been sold by the Kellys and part by the original vendor direct, Whether this is material we need not now inquire, because the second condition laid down in Elliston *v.* Reacher was, (2) That previous to selling the vendor must have laid out the estate or a defined portion thereof, including the land purchased by the plaintiff and defendant or their predecessors subject to restrictions which, though varying in details, must be consistent in themselves and with a general scheme of development. . . . This principle as is shown by the judgment, was lacking in this case." The third principle was—the restriction must be for the benefit of all the lots sold, whether or not they were intended to benefit the land retained by the vendor; and the fourth was that both plaintiff and defendant must have purchased from the common vendor on the understanding that the restrictions were to enure for the benefit of other plots included in the general scheme. Here, as there was held to be no scheme it appears this principle could not be complied with.

In Reid *v.* Bickerstaff (see *The Builder*, July 10, 1909) the predecessors of the plaintiffs in the action had, in 1843, purchased land on an estate subject to restrictive covenants; the defendant's predecessors had in 1840 bought portions of the same estate from the same vendors, subject to similar covenants; other land had at various times been sold to other purchasers. There was nothing to show that the conveyance to the plaintiff's predecessors contained any reference to the conveyance to the defendant's predecessors or that the defendant's predecessors had any knowledge of the covenants entered into with other purchasers before their conveyance in 1840. The Court of Appeal held that the plaintiff had failed to show a building scheme involving reciprocal obligations between the purchasers, or that the plaintiff was entitled to the benefit of the covenants contained in the conveyance to the defendant's predecessors. We have not the full report of this case before us, but it seems a less strong case than that we are now considering, for here the conveyances were in one model form showing the existence of restrictive covenants, whilst there, there was nothing in the plaintiff's conveyance containing any reference to the previous conveyance to the defendant and thus principle (4) cited above was not complied with; all knowledge was absent.

We shall revert to the case we are considering if it is reported in the Law Reports.

Workmen's Compensation "Out of" the Employment.

The House of Lords, in the case Upton *v.* Great Central Railway Co., which we noted October 30, 1923, has unanimously reversed the decision of the Court of Appeal in which the majority of that Court had held that the accident in question had not arisen "out of the employment."

The applicant was the widow of a man who was in the employ of the respondents, and on the day he met with his accident was employed to go from his home station to another station on the line and from there go to work at a water main some distance from the station. It was admitted that his employment extended from the time that he left his home station until he returned to the same, and that the accident happened "in the course of" his employment, but the question was whether it arose "out of" it. He was returning from his work and had reached the station where he had to take train for his home station, and when the train came in he hurried across the platform and slipped and fell, injuring his knee, and septicæmia set in and he died. The platform was wet, but the arbitrator had found it was not slippery, and the majority of the Court of Appeal held that the accident did not arise "out of" the employment as there was no special risk of location and no causal connection between what the workman was employed to do and the accident. We may here mention that in our former note the word "causal" was accidentally printed "casual" in two places.

The House of Lords has now reversed this decision, but at present only one of the opinions delivered by the House is reported (*The Times*, December 19).

Lord Haldane, who delivered that opinion, is reported as having said that although some causal relation with the employment must be shown, that need not be a direct or physical causation. If there had been a hole in the platform that would have been an illustration

of direct or physical causation, but the statute does not prescribe such causation, and the right given is not dependent on negligence on the part of the employer, but is in the nature of insurance against injuries by accident provided they arise out of the conditions on which the man is employed; thus the only kind of causation that is demanded is that the accident should have arisen out of the man's fulfilment of those conditions. In other words the statute by its language requires the Courts to interpret the kind of causal connection required as satisfied where the accident has arisen out of what the workman had to do because of the conditions of his employment as distinguished from being directly physically caused by it. Lord Haldane then, having thus defined the causal connection, said it was not easy to lay down with precision how far such conditions may extend; the mere fact that they have arisen in the course of the employment is not sufficient, but if in the course of his employment the workman meets with injury by accident which has arisen directly out of the circumstances encountered, because to encounter them fell within the scope of the employment, compensation can be claimed.

Lord Haldane also pointed out that if the accident occurred from carelessness that afforded no bar to the claim, for serious and wilful misconduct is the only bar, and where death or permanent disablement ensues from the accident that is also no defence.

We do not know when all the judgments are reported if any more definite principle can be extracted than what we have summarised above from Lord Haldane's judgment, for it will be seen it seems as difficult as ever to read the expressions "in the course of" the employment and "out of" the employment so as to qualify the first by the second, if so wide an interpretation has to be given to the Act as that laid down in this judgment.

The following cases were referred to in the judgment as supporting the view expressed in it: Thom *v.* Sinclair (1917, A.C. 127; *The Builder*, June 22, 1917); Dennis *v.* White (1917, A.C. 479; *The Builder*, October 26, 1917); Stewart *v.* Longhurst (1917, A.C. 257; *The Builder*, April 6, 1917); and Davidson *v.* McRobb (1918, A.C. 757; *The Builder*, August 2, 1918). These are all cases in the House of Lords, but the Courts have not found it easy to draw any certain principle from them. They were considered in this same case when before the Court of Appeal, and the majority of that Court came to a contrary decision to that now delivered in the House of Lords, and it must be remembered that in the very recent case, St. Helen's Colliery *v.* Hewitson (*The Builder*, December 7, 1923), where the question was whether a man had been injured "in the course of" his employment, Lord Shaw of Dunfermline strongly dissented from the opinion expressed by the majority of the House.

In our note on the case we are considering, when decided by the Court of Appeal, we thus summarised what we considered to be the effect of the cases, Thom *v.* Sinclair and Dennis *v.* White: "If a workman whilst performing the obligations of his employment, incurs a risk which the conditions of that employment involve and sustains an injury from that risk, the accident arises 'out of' his employment, and that whether the risk is common to mankind or not."

In the light of the decision now delivered in the House of Lords, this summary of the law, which we based on those two cases, seems to require alteration, as it is now too narrow, and the word "risk" must at least be left out, for, according to Lord Haldane's judgment, the Act amounts to an insurance, not against the risks attending the employment, but against "injuries by accident" arising out of the conditions under which the man is employed, and thus the summary should now read, "If a workman in the course of his employment, whilst fulfilling the conditions of his employment, that is, doing what he has to do because of the conditions of his employment, sustains an injury by accident, the accident also arises 'out of' the employment." We have added the words "doing what he has to do," because of the decision of the House of Lords in St. Helen's Colliery *v.* Hewitson, for in that case the majority of the House held that the accident did not arise "in the course of" the man's employment, because, although he was in the train under a recognised right and by arrangement with his employers, yet it was optional for him either to use the train or to arrive at his place of work by any other means he chose.

The facts of the cases referred to by the House of Lords in giving the decision in Upton's case will be found very briefly summarised in our note on that case when heard in the Court of Appeal (*The Builder*, October 26, 1923), and in our note on St. Helen's Colliery *v.* Hewitson.

THE RENT ACTS.

Statutory Tenant's Right to Assign.

In two cases recently appealed, Keeves *v.* Dean, and Nunn *v.* Pellegrini (1923, 2 K.B. 804), a question was raised under the Rent Act, 1920, upon which it was said there was no direct decided case. That question was whether a tenant who has received notice to quit, but who retains possession as a statutory tenant, has the right to assign the premises?

The facts of the two cases as reported in the Divisional Court in the *Law Reports* are as follows:—In Keeves' case the plaintiff Keeves was the owner of a house at Thornton Heath, and in April, 1919, he had let the premises to one Beach as a weekly tenant. There was no written agreement, and in August, 1922, the plaintiff had given Beach notice to quit, but he remained on as a statutory tenant. On January 5, 1923, the plaintiff received a letter from the defendant Dean's solicitors, stating that by an indenture dated January 3, 1923, Beach had assigned the premises to the defendant. The defendant was requested to vacate the premises, but he declined, saying the assignment to him was regular, and the plaintiff brought this action to recover possession.

The facts of the second case are very similar: there was a letting of the premises to one Stebbings on a weekly tenancy. In May, 1920, notice to quit had been given, and the rent was increased within the statutory limits. In the letting there was no prohibition against assignment, but in the later rent books there was a prohibition against sub-letting. In December, 1922, the goodwill, stock and fixtures of the business carried on by Stebbings had been sold, and it was part of the bargain that Stebbings' interest in the premises should be transferred to the defendant, and on the sale being completed Stebbings had erased his own name from the rent book and inserted that of the defendant. The plaintiff had refused to receive rent from the defendant, and in March, 1923, the plaintiff brought this action against the defendant, claiming possession and damages or mesne profits. In the first case the County Court judge had made an order for possession, but in the second case the judge of a different County Court circuit had held the defendant was entitled to judgment.

The Divisional Court had reversed the decision of the County Court in the first case, and affirmed the Court in the second case, thus holding in favour of the statutory tenant in both cases. The decision mainly turned on section 15 subsection (1) of the Act of 1920, which provides "A tenant who by virtue of the provisions of this Act retains possession of any dwelling-house to which this Act applies shall, so long as he retains possession, observe and be entitled to the benefit of all the terms and conditions of the original contract of tenancy so far as the same are consistent with the provisions of this Act. . . ." The Divisional Court held that as at common law a tenant has a right to assign his interest unless he is precluded from doing so by the terms of the contract of tenancy, and as it had been held in Parkinson *v.* Noel (1923, 1 K.B. 117; *The Builder*, December 8, 1923), that a statutory tenant's interest is "property" within the meaning of the Bankruptcy Act, 1914, section 167, and therefore not a mere personal right, the statutory tenant, unless precluded by the agreement of tenancy, could assign his interest, and there was no provision in the Act contrary or inconsistent with such a construction.

In Nunn's case also a point was raised that the assignment must be under seal, but the Divisional Court approved the finding of the County Court judge that although the assignment of the statutory tenant was not under seal, yet upon the facts proved a Court of Equity would grant specific performance and would direct a formal deed of assignment to be executed.

The Court of Appeal has now reversed this judgment of the Divisional Court (see *The Times*, December 20), but it must be noticed that the decision relates to assignments only, the question of sub-letting being left for decision in a case where that point arises.

The Court referred to section 15 subsection (1), part of which we have set out above, and pointed out that in two cases, Remon *v* City of London Real Property Company (1921, 1 K.B. 49; *The Builder*, February 11, 1921) and Cruise *v.* Terrell (1922, 1 K.B. 38; *The Builder*, April 21, 1922), it had been decided that a person who is in possession by virtue of the Statute only, is a tenant within the Act, and held that the right to assign is not a condition of tenancy, for the right to assign is a right incidental to an estate, but the right conferred on a statutory tenant is a personal right which cannot be assigned unless the Statute authorises it. Having thus laid down the principle, the Court then referred to subsection (2): "Any tenant retaining possession as aforesaid shall not, as a condition of giving up possession, ask or receive the payment of any sum or the giving of any other consideration, by any person other than the landlord" under penalties described in the subsection, and said that the two subsections showed that when in subsection (1) the legislature used the words "terms and conditions of the original contract of tenancy," it was clear the words were used in their strict legal meaning, and the conclusion to be arrived at was, reading the two subsections together, that a person remaining in possession under the Act after the expiration of the term has no right to assign the premises.

It will be seen that the question is a difficult one, and we may revert to it when the case is reported in the Law Reports, but the decision is definite that a statutory tenant holding over after the determination of an agreement, such as those before the Court, with no provision allowing him to assign in the agreement of tenancy, has no right to assign.

If, however, the contract of tenancy did contain license to assign it might still be a question whether under subsection (1) that was not a "term and condition of the original contract of tenancy" to the benefit of which the statutory tenant would be entitled, for that question was not before the Court.

Therefore, it is very important to note that the Rent Restrictions Act, 1923, in section 4 subsection (1) paragraph (*h*) has a provision dealing with this matter. That paragraph provides a new ground upon which an order for possession may be made, that is where "the tenant without the consent of the landlord has at any time after July 31, 1923, assigned or sublet the whole of the dwelling house or sublet part of the dwelling house the remainder being already sublet." The only question, therefore, which can now arise is what meaning is to be attached to the words "without the consent of the landlord." If the lease or agreement of tenancy contained a license to assign or sublet, would that be a term or condition of the contract of tenancy under section 15 subsection (1) to which the statutory tenant is entitled "so far as the same is consistent with this Act," and therefore amount to a consent under paragraph (*h*) of the new Act, or must special permission be asked and obtained? We imagine that it would be held that where the tenancy agreement permits assignment, the statutory tenant can avail himself of the license, but at any rate one point is clear which, as we have said, was specially reserved in the above decision, for the Statute places assignments and subletting on the same footing.

INDUSTRIAL ART.

BY REGINALD HALLWARD.

Two events, each of them directed to the improvement of the standard of industrial art at the present time, both of them of more than usual importance—the one promoted by the Royal Society of Arts and the other by the London, Midland & Scottish Railway Co., have already called forth a considerable amount of notice. In the case of the first, the Society of Arts, in order to encourage the study of design for industrial purposes, have decided to hold annual competitions. The first of these will take place in June, 1924, and will be open to two classes—(*a*) students in British Schools of Art, and (*b*) all British subjects. The competition is divided under the following heads:—(1) Architectural Design, (2) Textiles, (3) Furniture, (4) Book Production, (5) Pottery and Glass, and (6) Miscellaneous, from which it is seen that the scheme covers a wide field. The Society will confer its Diploma on any candidate whose work shows exceptional artistic ability and practical knowledge of the materials and processes of his trade. After the awards, by permission of the Director, the designs will be exhibited at the Victoria and Albert Museum. Under the title of "Miscellaneous," two firms offer prizes for designs for chocolate boxes. The L.M.S.R. scheme takes the form of commissions to members of the Royal Academy to design posters of places and industries on their line. Many of these posters are already nearly complete, and as many as 17 Royal Academicians are engaged on the work. The suggestion of this movement came from Mr. Norman Wilkinson, whose poster work is well-known, and no pains will be spared in their reproduction in order to secure the best result. In regard to this scheme it will be of interest to quote a passage from an article in a contemporary on the subject in which it is stated: "The artist is the very man that we require more of in our social swirl of routine, catchword and claptrap . . . And the Academician going out into the highways should not only find his work, but find himself." From which it would appear that he has not already found himself, to which perhaps Academicians will have something to say.

We are glad, however, to see the good example set by the Underground Railways being followed by other companies. For the success of the former has not been only that it has sought to improve advertising—for which good intentions are insufficient—but that it has shown so much judgment in the choice of suitable material, avoiding the over-pictorial, and touching advertising with the lightness and buoyancy which fits its more, or less, ephemeral character. We have only to think of the enchanting alphabet known to travellers by the Underground, and the more recent and provokingly droll little poster, called "Theatreland," to see that the Underground enters into the genius of the art, which is not to load us with ponderous and realistic scenery, printed in a great number of colours, but touch it all with the magic wand of gaiety, brightness, humour, and with treatment adequate to these. This—though we do not praise everything—they have done in a way that is deserving of thanks from all who use their system of railways. We are at moments afraid that the Midland Company are relying on the prestige of certain artists, instead of the applicability of their work, and it was in avoiding the mistake of this more conventional attitude that the Underground was able to go straight towards success, and it would not be too much to say that they have created advertising through this independence of choice. So that, when we hear of Scotch scenery, and think of the peril that lochs and lakes are to the artist, we are anxious to encourage a direction in which fancy is more than fact, art more than nature, and genius more than reputation. In justice to the artists who have done such good work already, we may add that Academy rank is no greater assurance of improved industrial design than the work of other good artists who have been pioneers in the movement which has preceded theirs. We welcome and look forward to seeing these Royal Academy posters, many of the members not having before done a poster; but when reports state that "a great move forward in industrial art is to be expected," we see no reason to think that the enterprise which has done so much for industral art in the case of the Underground Railways is going to be left behind. We want to make this clear, while welcoming the Academy contribution. From what we read of the intentions, the Midland Co.'s scheme is not unattended with dangers. "Mr. Wilkinson," so we are told in the *Observer* account, "was evidently delighted with the subject. The L.M.S. lines, he pointed out, run through the loveliest scenery in the kingdom —the mountains of Wales, the Mediæval Border, the wildly beautiful Highland glens and forests, the glens of Antrim, and the great loughs of Ireland," and so on. But realistic portrayals of Highland glens can be very dismal things, and the traveller, so it seems to us, in his minutes of waiting for the train, would prefer something else, something that arrested by its unexpected whimsical character, that had genius and personality to beguile us through impressions drawn from art rather than local scenery. And what we are concerned to point out here is that lightness, fancy and personal vision are better than pictorial landscapes of glens and lakes. The advertisement is by nature of its situation and purpose more or less ephemeral, and should be touched with the lightness which such a use connotes; this does not preclude a fine sense of design and treatment, but directed to its purpose and place and the limitations which such imposes.

It may be suggested in reply to this that the mediæval period brought art into the daily life, touching it everywhere, and that there is a sort of parallel in this introduction of academic art to advertise railway travelling. On the other hand, there will be those who see danger to art in the artist being brought more and more within the orbit of industrialism, and that the nature of his vocation may be sacrificed to it. We do not say this is the case, but some will doubt—there will yet remain some who find another scope for art, which is not included in industrialism, as the expression through beauty of the highest religion and noblest truth. We are not deprecating industrial uses for art—far from it—but are wishing to keep before the public those other aims for art which industrialism obscures. Is there not some parting of the ways for art disclosed through present issues? which reveals the craftsman on one side absorbed more and more into industrial art, and finding through it his scope, and on the other the pursuit of beauty by the artist for itself, trusting the inspiration of his high vocation in a world more occupied in material wants, and so to raise and purify it. This appears to us at such a time to need saying lest we forget the larger issues of life for mere "meat and raiment."

We have already commented on the proposals of the Royal Society of Arts, and while in no way deprecating any steps which may improve industrial design, we are unable to forget that this is only one more of a very great number since the time of the Great Exhibition of 1851, directed towards that end. It must be remembered also that the deterioration in our industrial standards of craftmanship has in many ways progressed since that time. Such schemes, under one guise or another, are hardy perennials which have not yet led to that decisive improvement hoped for.

We yield to none in our desire to see improvement, but does it lie in craftsmanship alone? Can the problem of industrial art be solved through giving diplomas, or because seventeen Academicians design posters for the railway stations? No doubt great changes are foreshadowing themselves as the result of the war, but have they penetrated through all ranks of society to seek new and better ends for industry raised above the war of industrial competition to seek beauty as an end in itself? Yet something like this must ensue before the industries of the country can be again stamped with authentic beauty. Are we quite whole-heartedly seeking beauty for our industries, or are we proposing to make use of it for our commercial purposes, to push our sales? There is a world of difference between the two, and we shall find what we seek.

There is yet another thing which must also be considered when we are showing so much concern for the needs of industrial art. There is only art, there is not industrial art and some other; nor is art necessarily of a character that would be at once understood and appreciated by the general public. Every artist knows that this is a negation of the nature of art, which asks something from us as well. We cannot have it both ways. What art is this that is to be secure of appreciation by the public as a condition of itself? For it suggests there is some other art which the public may not like so well. Are we making terms with art on the basis of our pockets or our hearts? For we need to look at things as they are, not as some of us would wish them to be. Will the Royal Society of Arts award its diplomas to art or to the art the public is supposed to like? For they may not be the same. We would not be misunderstood: given good design, the public would in time appreciate it. But the thing we are all needing is to believe in beauty for itself; and it is this grand amelioration we await, and industry awaits, and when this deliverance comes we shall awaken to a new world.

The danger is lest we should appear to be doing something when we are not really doing it. We are anxious to encourage industrial art, but is the artist, when we have him kept in full use of his abilities in the best way? We pursue the shadow so often for the substance—encouraging art, industrial or other—while the artist is seldom fully employed. It is worth while thinking of these things when regarding new schemes for improving industrial art, because they lie as the foundations of any possible success. For it is not that beauty is far off from us, but that we are far off from it, through an outlook with which the industrial era has accustomed us; in which expediency, and worldly wisdom, and the power of money—to which beauty will never yield—have ruled over us. And so, though welcoming all efforts directed towards the improvement of industrial art, we speak here of what must also not be left undone, if we are to disentangle life from the half-truths and expediencies under which we live. It may be that we have yet to plough our feet through deeper loss and suffering before there returns that belief in the good and the beautiful which directs us to trust it before aught else and for its own sake; but when that time comes we shall rely less on diplomas to restore to industry the beauty —the want of which we feel—because it will then have become what all our hearts desire.

The Wren Society.

This society, which was founded shortly after the Bicentenary Celebrations of February, 1923, for the purpose of publishing the drawings of Sir Christopher Wren and other documents throwing light on his work, has now in hand a portfolio to contain the drawings of St. Paul's in the All Souls' Collection, which will be issued with explanatory text as early as possible this year. It is hoped that many who have not already joined the society will avail themselves of the opportunity of doing so now, since wider support will be needed to enable the society to extend its activities to other subjects and other collections. Matter is abundantly available, but must remain little known till it can be reproduced. The annual subscription is one guinea, and subscribers will receive annually a portfolio of from 20 to 25 collotype plates with text. The Hon. Sec. is Mr. W. H. Ward, 2, Bedford-square, W.C. 1.

THE BUILDING TRADE.

COST OF BUILDING MATERIALS.

THE report for November and December, 1923, of the Inter-Departmental Committee appointed to Survey the Prices of Building Materials, states that the most appreciable fluctuation to which attention need be drawn is the price of lead between October and November, 1923. The general rise in price mentioned in the October report was still further accentuated, and in the majority of districts included in the schedule the November prices show an increase of approximately £6 or £7 per ton. Timber appears to be somewhat easier in price in London and Edinburgh. The price of bricks and cement remains generally at the same level; there has, however, been an advance of 2s. a thousand in common bricks at Swansea, and a fall of 2s. at Edinburgh. From Manchester, where a fall of 5s. a ton in British Portland cement was shown in October, a further drop of 2s. is reported. There has been no change in the price of light castings. There have been a number of local fluctuations in other materials, but no general move in either direction.

There has been practically no change in the level of prices between November and December, the one point mostly of note being a fall of 6s. 2d. a thousand in facing bricks at Dundee.

MESSRS. WALTER LAWRENCE & SON, LTD.

ON the occasion of Mr. Walter W. Lawrence's majority, the staff of Walter Lawrence & Son, Ltd., were entertained to dinner at the Great Eastern Hotel, on Tuesday.

After the loyal toasts had been honoured, Mr. W. A. Ward, in proposing "Mr. W. W. Lawrence," presented him—on behalf of the staff—with a gift of silver as a mark of their appreciation.

Mr. W. W. Lawrence, responding, said he hoped to be in touch with them in the future. As they had known him years ago, he hoped they would be content to know him then. In spite of the troubled times of commerce, he trusted the foundations of friendship would last for many years to come.

Mr. B. T. Rice Pyle then proposed "The Architects and Surveyors." Messrs. Victor Wilkins and J. M. Theobald responded.

Sir Walter Lawrence, in proposing "The Staff of Walter Lawrence & Son, Ltd.," said no firm could succeed without a loyal staff, and, it was interesting to know, that several members had served for over twenty-five years—hard work seemed to agree with them. They were the men who had stood by the firm and brought it to its present position.

Mr. W. L. Thorpe, responding, presented to Sir Walter Lawrence, as a mark of their appreciation, an address signed by the whole of the staff.

Sir Walter, in a brief reply, said the address was totally unexpected, and he was pleased to think his treatment of the staff had been appreciated.

NEW BUILDINGS IN LONDON.

FLEET-STREET RECONSTRUCTION.—Messrs. B. Colley & Sons, Ltd., builders, of 135, Portland-road, W.11, are reconstructing 144, Fleet-street, the reconstruction and alteration consisting of gutting out the whole of the floors from top to bottom and the roof, and underpinning the party wall between 114 and 113; also new concrete floors in the basement and to the shop. Messrs. Seigwarts have put in their patent concrete reinforced block floors. The Empire Stone Co. has built new stone stairs from the basement up to the top of the house.

MODERN BUILDERS' MACHINERY.

By STAFFORD RANSOME.

III.—SECOND-HAND PLANT.

IN the last article the very wide range of makers of machinery from whom the builder may make his selection and the difficulties in arriving at a sound decision were discussed, and a certain policy for purchasers recommended. Here it is proposed to deal with the problem of second-hand machinery, which often plays an important rôle in the building industry, especially with young firms who are beginning to launch out.

There is always a considerable amount of second-hand builders' plant floating about the country, mostly in the hands of dealers, and the rest is to be found at auctions or in factories which have ceased work where the owners prefer a private sale to an auction. Just now there is an unusually large amount available, as there are hundreds of machines that were used for rush work during the war and whose functions ceased when the war ended, and the large surplus Government stocks that were never used, and which have not even yet all been absorbed.

Let me say at once that in the abstract I am no believer in the adoption of second-hand machinery as a principle. At the same time there is a very large trade in second-hand plant, and in it the smaller builder is a large purchaser and is not infrequently to be found as a seller. He is a purchaser for a variety of reasons: The low cost may appeal to him; he may be in a hurry and cannot wait for new machines; he may see just what he wants, or thinks he wants, in the way of second-hand plant ready for his use just at the right time; he may want machines temporarily and consider that second-hand plant may suit him for the purpose. He becomes a seller because: His business may be expanding and he discards his combined machines of the "general joiner" or "universal wood worker" type in favour of separate machines; he may have been only a temporary user of machines; he may be going out of business; he may realise that he has bought a bad plant and wants to get a better one. Second-hand machinery, then, is a serious factor in the trade and, while the idealist may scoff at it, it cannot be laughed off or ignored, for it is there, good or bad, a real thing which must not be passed over lightly as of no account.

Nothing that can be written against it will stop or even discourage it, and after all the chance of making a wonderful "bargain" is often irresistible to many purchasers. To the purchaser who has a thorough knowledge of wood-working machinery and has an opportunity of carefully examining the plant before purchasing the risk is not great, but to anyone else the danger of making an appallingly bad bargain is evident. In a previous article I emphasised the point that the best machines are the cheapest. Well, second-hand machinery is seldom likely to be the "best," even if it is of good make and in good condition, but it may well be that a second-hand plant by a good maker will prove itself to be infinitely better than a cheap new plant. On the other hand there are many second-hand machines which have the appearance of being "as good as new" which are virtually worthless. A pot of paint will do wonders in making an old machine look presentable. On the other hand some machines which appear, and actually are, nearly new may also be worthless, because, owing to some inherent fault in their design or construction, they were wrong from the start. Such a defect may not be noticeable to any but an expert until the machines are in operation.

If a purchaser of second-hand machines is himself an expert and a millwright, and can afford the time to look around and wait for what he wants, he can sometimes equip himself eventually with a second-hand plant which will answer his requirements quite well after he has put the machines in working order himself. Many builders in a small way have started on these lines, and some have gone on doing so and, in fact, have made a hobby of it. Personally I do not consider the game is worth the candle, because the waste of time involved in the process is very considerable, and although the machines may have been made "as good as new" some of them assuredly will be somewhat out of date.

In trying to avoid the pitfalls that lie in the path of the purchaser of second-hand plant let us analyse the stuff those machines are made of.

Long-Lived Machines.

One often hears a saw-mill owner say that a certain machine of his, after working for twenty years, is "as good as new." Only recently I saw a letter from a man, well known as a saw-mill authority in India, stating that a saw-frame which had been running there for twenty-eight years was still in perfect condition, and he gave as its present output a rate that was at least equal to that of a good log frame made to-day. This is due to three causes: (1) The machine was by a first-rate maker; (2) it had been looked after intelligently; and (3) there has been no material increase in the outputs of general purpose log frames or drastic alterations in their construction since that date. The best makers in those days erred on the side of heaviness in their machines, and the materials they used, though not so scientifically apportioned, were always good. This all tended to longevity, and there is no reason why a frame saw constructed a quarter of a century ago should not be virtually as good to-day as it was when new, provided that it has been intelligently used and had its wearing parts renewed from time to time. Nor is there any reason to scrap it in favour of a new log frame, for the new one would not give an appreciably larger output or a better quality of work.

The steady slow-going log frame is almost alone among wood converting tools to which the above condition may be said to apply, for although the above period is by no means an extraordinary lifetime for a wood-working machine of almost any type, if properly made in the first instance and carefully treated, and although there are thousands of them other than log frames of that age working to-day as well as they did when they were put down, they are nearly all out-classed by more modern machines which do better work at higher speeds. Not only that, but to-day they are much more scientifically made, stresses are dealt with theoretically, all unnecessary material is eliminated from the working parts, spindles are accurately balanced, feeding gear vastly improved, and ball and roller bearings have at once, by greatly reducing friction and the amount of lubricants consumed, lowered the driving effort.

Users of wood-working machinery proverbially hang on to their machines far longer than they should, for it is merely a truism to say that a machine is obsolete as soon as there is a better one to replace it. Thus it is that in normal times second-hand machines do not, as a rule, come on to the market in any large quantity, except from some accidental cause, until they have long been obsolete in comparison with new machines, or until they have been used up or damaged, or unless they were originally bad. This makes the purchasing of second-hand plant a very dangerous proceeding to the tyro.

Obsolete Machines.

One cannot, of course, place even an approximate date as to when a particular class of machine becomes obsolete, but we may take it as a general rule that with the exception of the log frame and possibly one or two of the simpler machines, such as a plain saw bench or plain lathe, no second-hand machine that is anything approaching ten years old is worth buying at any price, and nothing in the shape of an automatically fed machine, either in the form of a planer or a saw, is worth considering after it has been in use for much more than half that period; not necessarily because it is worn out, but because there are far better designs to be had to-day. This computation, rough as it is, can only hold good when it is a question of a choice between second-hand machinery and the best new machines that can be got. If the choice lies between second-hand plant and cheap new stuff, whether in the form of Continental machines or those made by certain firms here who cater for the cheap trade in competition with the Continental firms, it is quite possible that a ten-year-old plant by a good manufacturer will be far the better proposition of the two. The reason for this is because the cheaper machines do not, as a rule, contain the latest improvements and their construction is liable to be faulty.

A point to be borne in mind when purchasing second-hand plant is that if it is in such a condition that much money has to be spent upon it to make it "as good as new" most or all of the advantages in purchasing it at a low cost are done away with.

The proper people to renovate a second-hand machine are the firm who made it. Their price may be higher than that of a local millwright, but the latter may have but little experience in wood-working machinery, and if it is a question of replacing broken or worn-out parts there is no one but the maker who is likely to have in stock the required exchange pieces. Besides this, the maker whose name is on the machine will assuredly make a good job of the renovation or refuse to undertake it, as his prestige is at stake.

A Machine's Past Life.

One of the most important things to ascertain when purchasing second-hand machinery is its past history, and the first item to find out is the maker. If it is by a well-known manufacturer the name will be on it. If there is no name, or if it bears the name-plate of some factor instead of the actual maker, there is some reason for it. Even a factor does not remove the name of a reputable firm, because it is a guarantee that the machine is, or ought to be, a good one. Still less does the second-hand dealer do so, because a good maker's name may quadruple the price that he can get for the machine.

The next most important thing to ascertain is the age of the machine. With the maker's name it should not be difficult to find this out, especially if it is known where the machine has been working, as there is probably a record in the maker's books. At all events, a representative of the maker will easily be able to date its birth within a year or two if he has an opportunity of inspecting it. It is usual for the maker to cast his name on the machine, usually on some part of the main standard.

The safest way to buy a second-hand machine is from a factory which is about to stop, or from which the machine is about to be removed, because then the purchaser or his technical adviser can see the machine at work and examine the quality of the work done by it. It is not often, however, that this is possible, as the machines are seldom put on the market until the factory has stopped work.

By far the cheapest market in which to buy second-hand plant is the auction room, for here good machines will sometimes be sold for a twentieth or less of their value though often rubbish will fetch as high a price as good machines. For this reason it is a very risky business unless the purchaser has had a previous opportunity of fully examining the machines. When such is the case, if the machinery is good and what is wanted, it would be better to buy it in before the sale if you can get it at your own price. It is possible that at the auction you might buy it cheaper, but then you must risk the chance of someone else getting it.

Quite recently I had to advise on the purchase of a plant for making a certain special article. The machines were in a factory which had given up work, and this special plant, with the rest of the property, was shortly to be put up to auction. I inspected the plant, recommended its purchase at a certain price, which was accepted by both parties, and the goods were withdrawn from the sale. Here my work ended, but it transpired that in error one of the machines concerned had not been taken out of the sale and was knocked down to a dealer for a few pounds. When the mistake was discovered the dealer was located and his price was five times that amount. Big as was the profit, it was a legitimate one as he had taken a big risk, for he might have had to hold it for a long time; but the machine was a good one and worth certainly three or four times the dealer's price to the man who wanted it.

Buying second-hand machinery from a dealer is the easiest procedure for the man who is in a hurry, because, by looking round the dealers, he may get a fairly wide selection of machines. It is also the easiest way of falling into a bad mistake. When this policy is adopted, however, it is safer to purchase from a dealer who sells his machines in the condition in which they were when he bought them, without, that is to say, any attempt to make them "as good as new." With the former, if we have an opportunity of inspection and are conversant with these machines, we, at all events, know the worst at once, and can form our own estimate as to what the repairs will cost. The price, too, will be comparatively low. With a dealer, however, who makes a practice of renovating the machines he buys and selling them as in good working order, if not new, we are facing a much more risky proposition. To begin with his price will be within measureable distance of that of a new machine. Quite possibly he has honestly tried to put the machine in good repair, but his one and only object is to make the machine presentable for sale at a good price, and he spends as little money in the process as possible. We must further bear in mind that, with all the good will in the world to do the work thoroughly, he cannot do it as efficiently as it should be done if there are any complications involved in the process. Essentially is this the case where anything in the shape of an elaborate machine is concerned, such as a four-cutter planer or a general joiner. Nor is such a man going to order and fit special exchange parts which may be necessary to the proper renovation of a machine. Further, whatever his knowledge of machinery repairs may be, he is not an expert in all sorts of machinery, and wood-working machinery is intended for high-speed and delicate operations, and all repairs to it, as above explained, should be done by an expert, preferably by the maker of the machine.

Apart, however, from the conscientious dealer, there are others whose renovations consist solely in camouflaging defects, and some of these dealers are extremely ingenious in their methods. Quantities of vamped-up and very bad wood-working machines are made presentable by such dealers and are readily sold, and it is in this trade that the worst bargains are made from the purchasers' point of view. In short, if you buy second-hand machinery from a dealer, buy it in the rough, and see to its being put in workable order by someone of your own selection.

Characteristic Deficiencies.

Now I will endeavour to summarise the points which are most likely to cause trouble in second-hand plant. Some of these may be fairly obvious, but others are sometimes difficult to locate at the time of purchase.

(1) It is seldom that a second-hand machine, however good its condition may be, unless it is nearly a new one, will give as good results in output as a new machine, as types change and improvements take place frequently.

(2) It will be less convenient to handle, because the arrangement of spindle, feeding gear pressures, &c., has improved greatly during recent years.

(3) It may, and probably will, have solid bearings which are out-of-date for wood-working machinery to-day for anything except perhaps a saw frame.

(4) Its bearings in any case will probably require renovating or replacing, and if the spindles are badly worn they, too, will have to be replaced.

(5) The gear wheels and racks are almost certainly worn and require replacing. Very possibly they are of cast iron instead of cut out of the solid. This causes them to work jerkily, makes them noisy and absorb more power.

(6) The tables of saw benches and, worse still, of planing machines may be worn out of truth, and will require either replaning, replacing, or the machine may have to be thrown out.

(7) In four-cutter planers there may be no replaceable sectional tables to facilitate replacing when worn.

(8) There may be no provision for withdrawing the bottom block from a planer for adjusting the cutters.

(9) Spindle headstock fences, sliding parts and lathe centres may have been worn, or jarred, out of alignment.

(10) Cutter-blocks may have been knocked about and thrown out of balance and must be replaced or at all events re-balanced.

(11) The pins and collars or sleeves forming articulated joints will almost certainly be worn, thus producing "back-lash" and jerky movements.

(12) Hand-feed planers will almost certainly be unprovided with the circular blocks now required by the Home Office regulations.

(13) The guards and other safety appliances will probably not accord with these regulations.

THE WEEK IN PARLIAMENT.

WESTMINSTER, *Wednesday.*

Defence of the 1923 Housing Act.

DURING the debate on the Labour Party's motion of "No confidence," which began on Thursday, January 17, Sir Wm. Joynson-Hicks, the Minister of Health, said that, although the Housing Act of 1923 had been in operation for only five months, he had already approved plans for the building of 85,036 houses. Of that number 31,000 were to be built by the local authorities and 53,600 by private enterprise.

Already, under the 1923 Act, contracts for 44,000 houses had been made; 17,600 houses were in course of erection, and 3,500 had been completed. All this had been done in five months. He prophesied that there would be built in the first year after the passing of the 1923 Act no fewer than 100,000 houses. That number would be greater than the number built in any year during the last twenty years, except in one year, when 105,000 were built. The average annual pre-war figure was 63,000. In addition to the 85,000 he had mentioned, he was every week approving over 3,500 further houses. The best year under the Addison scheme only produced 88,900 houses. In 1901 there were 101,000 bricklayers, and to-day there were only 53,000. There were 27,000 plasterers, and to-day there were only 13,000. There were 8,400 slaters, and to-day there were only 2,880. There was practically no unemployment in the skilled sections of the building trade to-day. Of bricklayers there were 1.6 per cent. unemployed, of plasterers 3.5 and of slaters 4.9. He had been asked at the Ministry of Health by nearly every town in the country for more slaters, more plasterers and more bricklayers. He had had demands from local authorities who desired to build more houses, but who could not build more houses.

Sir W. Joynson-Hicks said, as regarded the skilled operatives, there was ample work in sight for them, and for at least 25 per cent. dilution for the next ten years.

Mr. D. G. Somerville, on the previous day, said the reason why too few houses had been

built was because of the shortage of bricklayers and plasterers. Why were there no bricklayers and plasterers in this country? Because, after the war, owing to the Socialistic doctrines which impregnated them, the trade unions did not allow any dilution of building labour.

Houses Built.

Sir Wm. Joynson-Hicks informed Mr. A. T. Davies that during the year ended December 31 last, apart from houses built by private enterprise without subsidy, 19,185 houses were completed in schemes approved under the Housing Acts of 1919 and 1923, and on January 1 last 18,975 houses were under construction.

Vacant Houses.

Mr. W. Adamson asked the First Commissioner of Works the number of dwelling-houses under the control of his department which were now vacant.

Sir J. Baird said that out of a total of 9,763 houses managed by his Department, 172 were void, over 75 per cent. of such houses being in Barrow and Invergordon; 149 houses were available for re-letting, but owing to the industrial conditions, especially in those two areas, considerable difficulty was being experienced in finding tenants. Only 23 houses out of the total of 9,763 were being held for sale, and in the event of there being no sale within the short period allowed by the Department, they would again be offered for letting.

Smoke Abatement.

Sir Wm. Joynson-Hicks informed Sir H. Brittain that it was proposed to reintroduce the Smoke Abatement Bill and he hoped it might be found possible to secure its passage into law during the present Session.

Light on the Cenotaph.

Colonel Vaughan-Morgan asked the First Commissioner of Works whether he was prepared to favourably consider the proposal to fix a light at the top of the Cenotaph to be kept constantly shining; and whether he was aware that the French authorities had put into practice a proposal having a similar object?

Sir John Baird said that the question was considered in June last year. Sir Edwin Lutyens, the designer of the Cenotaph, stated in the Press his objection to the proposal on the ground that the Cenotaph was not designed for the purpose. He shared the views of the distinguished architect in the matter.

CRAFTSMEN COMPETITIONS AT OLYMPIA.

It is intended this year to revive the competitions for craftsmen at the forthcoming Building Exhibition, to be held at Olympia in April, and all the Trades Training Schools are being asked to compete. A committee to arrange the details has been formed consisting of Mr. J. Alfred Gotch, President of the R.I.B.A., Mr. Stanley Hall, F.R.I.B.A., President of the Architectural Association, Mr. E. J. Partridge, F.R.I.B.A., President of the Society of Architects, Mr. Roland Chessum, ex-President of the Institute of Builders, Sir Banister Fletcher, F.R.I.B.A., Director, Trades Training School, Great Titchfield-street, W., and Mr. T. P. Bennett, F.R.I.B.A., of the Northern Polytechnic Institute.

At a recent committee meeting the time for holding the competitions and the conditions to be observed were agreed upon, the subjects to be set being left for further consideration.

It was resolved that the competitions should take place in the following trades:—Carpenters and Joiners, Plumbers, Bricklayers, Smiths, Plasterers, Masons, Painters and Decorators, Glaziers.

The management of the Exhibition offered to give a money prize of £5 to the first prize-winner, £2 10s. to the second, and books to the value of £1 to the third, together with a Diploma of Merit. It was agreed to approach the Companies of the City of London, interested in the Building trades, with a view to their giving special diplomas to the Schools, as apart from prizes to individuals. Particulars may be obtained from Mr. A. Cameron, 43, Essex-street, Strand, W.C.2.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	C'p'ters. Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Accrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Altrincham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ashton-under-Lyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barnsley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barrow-in-Furness	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Barry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bath	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bedford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Birmingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bishop Auckland	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Blackburn	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Blackpool	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bolton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bournemouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bradford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Brentwood	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bridgwater	1/3	1/3	1/3	1/3	1/3	1/3	1/3	0/11½
Brighton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bristol	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Burnley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Burton-on-Trent	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cambridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cardiff	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chatham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cheltenham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Chester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chesterfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Colchester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Coventry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Crewe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Darlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Derby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Doncaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dudley	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Durham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
E. Glam.(Mon. Vall.)	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Folkestone	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Gloucester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Grantham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grays	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Grimsby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Great Yarmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Guildford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Halifax	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harrogate	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hartlepools	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hastings	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Hereford	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Huddersfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hull	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ipswich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lancaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leamington Spa	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Leeds	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leicester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Liverpool	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Llanelly	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
London	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2½
Loughborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Luton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Maidstone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Manchester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Mansfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Merthyr Tydfil	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Middlesbrough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newcastle-on-Tyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newport, Mon.	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Northampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Norwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Nottingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oakham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Oldham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oxford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Pontypridd	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Preston	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Reading	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rochdale	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Rugby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
St. Albans	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
St. Helens	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Scarborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sheffield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Shrewsbury	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southend-on-Sea	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
South Shields	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stockport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stockton-on-Tees	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stoke-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stroud	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3	0/11½
Sunderland	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swansea	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swindon	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Taunton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	0/11½
Torquay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Tunbridge Wells	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsall	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Warrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
West Bromwich	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wigan	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Windsor	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wolverhampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Worcester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
York	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

(For rates of wages in the Building Trade in Scotland, see page 163).

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

JANUARY 26.—**Barnsley.**—HOUSES.—Tenders are invited for the erection of 20 houses, Woodstock-road, Barnsley. Apply Mr. P. A. Hinchliffe, 14, Regent-street, Barnsley.

JANUARY 26.—**Barnstaple.**—HOUSES.—For the erection of 13 houses on the Newport Housing Site, for the T.C. Borough Surveyor, The Strand, Barnstaple. Deposit £3 3s.

JANUARY 26.—**Dorchester.**—DWELLING HOUSES.—Erection of two small farm dwelling houses on Holdings Nos. 1 and 10, Oborne Estate, for the Dorset C.C. County Architect, County Offices, Dorchester.

JANUARY 26.—**Edinburgh.**—HOUSES.—Erection of 18 two-apartment houses at Sheriff Brae, Leith, for the T.C. Messrs. W. N. Thomson & Co., surveyors, 87, Constitution-street, Leith.

JANUARY 26.—**Exminster.**—OPERATING THEATRE.—Erection of an operating theatre at the Devon Mental Hospital. Messrs. E. H. Harbottle & Sons, architects, County Chambers, Exeter. Deposit £3.

JANUARY 26.—**Ilfracombe.**—ALTERATIONS.—For new cells and alterations and additions to Ilfracombe Police Station, for the Devon C.C. Messrs. E. H. Harbottle & Sons, architects, County Chambers, Exeter. Deposit £3.

JANUARY 26.—**Marylebone, W.1.**—SUNDRY REPAIRS, PAINTING, CLEANSING, &C.—Execution of sundry repairs, painting, cleansing and other work at the St. Marylebone Home, 1, Northumberland-street, W.1, for the Board of Guardians of St. Marylebone. Messrs. Constantine & Vernon, architects, 82, Mortimer-street, W.1.

JANUARY 28.—**Aberdeen.**—HOUSES.—Erection of 33 blocks, each of two cottages; two blocks, each of four flatted houses; two blocks of houses, each for six tenants, for the T.C. Mr. A. H. L. Mackinnon, Architect, 245, Union-street, Aberdeen.

JANUARY 28.—**Barnsley.**—CLUB.—For the erection and completion of an official's club, Little Houghton, near Barnsley. Apply Messrs. Dyson, Cawthorne & Coles, 10, Regent-street, Barnsley.

JANUARY 28.—**Blackpool.**—CONVERSION.—For the conversion of the shop premises in West- and Lytham-streets into municipal offices, for the T.C. Mr. Francis Wood, Borough Engineer, Town Hall-street, Blackpool. Deposit £2.

JANUARY 28.—**Blything.**—ALTERATIONS.—For alterations and additions to the Old Boys' School, Holton-road, Halesworth, and converting the same into a Children's Home, for the Board of Guardians. Mr. A. A. Hipperson, Surveyor's Office, Wangford, Lowestoft.

JANUARY 28.—**Bridgnorth.**—HOUSES.—Erection of 16 non-parlour type houses and six parlour type, for the T.C. Borough Surveyor, Bridgnorth.

JANUARY 28.—**Budock.**—BUNGALOW.—Erection of bungalow at Trescobeas, Budock. Mr. A. J. Cornelius, architect, Truro.

JANUARY 28.—**Carlisle.**—COTTAGES.—Erection of 50 cottages on the Wigton-road Estate, for the T.C. Mr. Henry C. Marks, City Engineer, 18, Fisher-street, Carlisle. Deposit £2 2s.

JANUARY 28.—**Ecuador.**—CUSTOMS HOUSE, &C.—The date for tenders for the construction of the new Custom house and wharf at Guayaquil, Ecuador, has been extended to January 28. Consulate-General, 23, College-hill, E.C.4.

JANUARY 28.—**Glasgow.**—QUAY.—For the construction of about 1,928 lineal yards of concrete quay wall forming Dock No. 1 Shieldhall, Glasgow Harbour, for the Trustees of the Clyde Navigation. Mr. T. R. Mackenzie, General Manager, 16, Robertson-street, Glasgow. Deposit £10.

JANUARY 28.—**Guildford.**—HOUSES.—Erection of alternative types of non-parlour houses as follows:—twelve houses on the West Horsley site, six houses on the Peaslake site, in the parish of Shere, six houses on the Pathfield site, in the parish of Shere, for the Guildford Rural District Council. Mr. John Anstee, Council Offices, Commercial-road, Guildford. Deposit £2 2s.

JANUARY 28.—**Hinckley.**—CONVENIENCE.—Erection of convenience off George-street, for the U.D.C. Mr. J. S. Featherstone, Surveyor, Hinckley. Deposit £1 1s.

JANUARY 28.—**London, S.E.1.**—HOUSES AND ROADS.—Development of a portion of the new Downham housing estate at Grove Park, Lewisham, S.E.: (1) Construction of roads, sewers and other works; (2) the erection of houses and such other buildings as may be determined. Tenders are invited on two alternative bases—(a) on the basis of the Council bearing the actual cost of and financing the undertaking and paying a fee or commission to the contractor for his services, the amount of such fee or commission being dependent partly upon a comparison or cost with a predetermined value for the London County Council. Administrator of Housing Development Schemes, Old County Hall, Spring-gardens, S.W.1, upon payment of £10.

JANUARY 28.—**Manchester.**—REPAIRS, &C.—For the execution of general contractor's and plumber's work in connection with the drainage of houses and other premises for 12 months, for the T.C. Mr. J. Irvine, Manager of the Drainage Branch, Public Health Dept., Civic Buildings, 1, Mount-street, Manchester. Deposit £1 1s., for each of three districts.

JANUARY 28.—**Plymouth.**—HOUSES.—The Council are prepared to receive tenders for the erection of 120 houses (the whole or a portion of the number) on four sites at North Prospect (Section No. 2). Form of tender, specification, plans and lay-outs may be obtained, and conditions of contract seen at office of the undersigned, on and after the 17th inst. Tenders, sealed and endorsed "Tenders for houses, North Prospect," together with all documents, &c., must be delivered to the Town Clerk not later than 10 a.m. A deposit of £2 2s. will be required, to be refunded on receipt of *bona fide* tender and return of plans and all documents. The Council do not bind themselves to accept the lowest or any tender. J. Wibberley, Borough Engineer and Surveyor, Municipal Offices, Plymouth.

JANUARY 28.—**Queensferry.**—PAINTING.—For the painter work of 16 houses at Hopetoun-road, for T.C. Mr. W. M. Scott, architect, Linlithgow.

JANUARY 28.—**Tendring.**—COTTAGES.—Erection of 28 cottages in the parishes of Ardleigh, Lawford and Tendring, for the Tendring R.D.C. Mr. F. G. Vincent-Brown, Cliff-road, Dovercourt Bay. Deposit 10s.

JANUARY 28.—**Thurstonland.**—HOUSES.—Erection of eight dwelling-houses at Town Moor Bottom, for the U.D.C. Messrs. J. Berry & Sons, architects, 3, Market-place, Huddersfield.

JANUARY 28.—**Whitfield.**—ALTERATIONS.—For alterations of shop, for the Whitfield Co-operative Society. Mr. Shield, West Side, Whitfield, Northumberland

JANUARY 28.—**Whittingham.**—COTTAGES, &C.—For erection of 15 pairs of parlour cottages near Mental Hospital, and construction of 450 yds. of roads, &c., for Committee of Visitors for County Mental Hospital. Mr. E. J. Andrew, 33, Winckley-square, Preston. Deposit £1 1s.

JANUARY 29.—**Beddington.**—PAVILION.—Erection of brick and concrete pavilion in Stafford-road recreation ground, for the U.D.C. Mr. S. F. R. Carter, Surveyor, Council Offices, Wallington. Deposit £1.

JANUARY 29.—**Carmarthen.**—PAINTING.—For cleaning and repairing bridges, station buildings, &c., at the following places:—(4) Carmarthen and Carmarthen Junction, (5) Pencader, Newcastle Emlyn, &c., for the G.W.R. Co. Engineer, Neath Station.

JANUARY 29.—**Consett.**—HOUSES.—Erection of cottages houses, to be in blocks of two, four, six and eight. Tenders for 50, 100 and 150 of such, for the U.D.C. Mr. Frank A. Coyle, Architect, 29, Newmarket-street, Consett. Deposit £2 2s.

JANUARY 29.—**Cork.**—VARIOUS WORKS.—(1) Reconstruction of soldiers' quarters, and (2) cookhouse and dining huts at Michael Barracks, for the Commissioners of Public Works. District Office of Public Works, Cork. Deposit £1.

JANUARY 29.—**Dover.**—WALL, &C.—Taking down and rebuilding wall, &c., at Crabble-hill, for the T.C. Borough Engineer, Dover.

JANUARY 29.—**Ebbw Vale (Mon).**—NEW STATION BUILDINGS.—For erecting, for the G.W.R. Co. at Ebbw Vale (Mon), of new station buildings. Office of the Engineer, Newport (Mon), G.W.R. Station.

JANUARY 29.—**Enfield.**—TELEPHONE EXCHANGE.—Erection of a telephone exchange at Enfield, for the Commissioners of His Majesty's Offices of Works. Contracts Branch, H.M.O.W., King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Secretary).

JANUARY 29.—**London, E.**—DWELLINGS.—Erection of a block of dwellings on the Collingwood Estate, Bethnal Green, for the L.C.C. Architect of the Council, The County Hall, Westminster Bridge, S.E. 1. Deposit £3, payable to the Cashier.

JANUARY 29.—**Woolwich.**—PROSCENIUM.—For providing new scenery and extension of proscenium. Secretary, Woolwich Arsenal and Town Social Club, Mount Pleasant, Plumstead, S.E.18.

JANUARY 30.—**Brentwood, Essex.**—BALCONY AND VERANDAH.—Erection of a balcony and verandah to an existing building at High Wood Hospital for Children, Ongar-road, Brentwood, Essex, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

JANUARY 30.—**Cudworth.**—HOUSES.—Erection of 34 houses with streets and sewers, for the U.D.C. Mr. J. R. Shephard, Surveyor, Council Offices, Cudworth, near Barnsley. Deposit £1 1s.

JANUARY 30.—**Leeds.**—SCHOOL.—Erection of Council School at Meanwood, for the T.C. Mr. James Graham, Director of Education, Education Offices, Leeds.

JANUARY 30.—**Llandudno.**—OFFICES, &C.—Construction of additional offices at Town Hall, and lavatories, &c., in George-street, for the U.D.C. Mr. W. T. Ward, Surveyor, Town Hall, Llandudno.

JANUARY 30.—**London, N. 21.**—WOOD BLOCK FLOORING.—Screeding and relaying a floor with new wood blocks at the Northern Fever Hospital, Winchmore Hill, N. 21, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

JANUARY 30.—**London, N.W. 5.**—CLEANING AND PAINTING.—Cleaning and painting at St. Margaret's Hospital, Leighton-road, Kentish Town, N.W. 5, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C. 4. Deposit £1.

JANUARY 30.—**London, S.E.14.**—REPAIRS & PAINTING.—Internal and external repairs and painting at No. 35, New Cross-road, S.E. 14, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

JANUARY 30.—**London, S.W.**—RECONSTRUCTION WORK.—Reconstruction of boiler house and laundry at the South Western Fever Hospital, Landor-road, Stockwell, S.W., for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

JANUARY 30.—**London, W.C. 1.**—ROOFING AND DECORATIVE WORK.—Works, comprising the reconstruction of the roof over the first-class swimming bath, and painting and decorative works at the building known as the first-class swimming bath, Broad-street, W.C., for the Holborn B.C. Mr. E. F. Spurrell, Borough Surveyor, Council Offices, 197, High Holborn, W.C. 1.

JANUARY 30.—**Marshland.**—HOUSES.—Erection of six houses in pairs in the Parish of Tilney St. Lawrence, for R.D.C. Mr. W. D. White, Paradise Chambers, King's Lynn, Deposit £1 1s.

JANUARY 30.—**Saltash.**—HOUSES.—Erection of 18 houses for working classes (12 of Type A and 6 of Type B) on the New-road Estate. Mr. F. E. Cleverton, Town Clerk, Saltash.

JANUARY 30.—**Walton-on-Thames.**—ASSEMBLY ROOM.—Erection of a Scouts' assembly room at Walton-on-Thames. Secretary, Mr. J. R. Evans, Allington, Annett-road, Walton.

JANUARY 31.—**Blairhall.**—FENCING.—For 950 lineal yards of fencing alternatively in iron and timber, at Blairhall Village, for the Fife C.C. Mr. H. F. Hodge, District Engineer, County Buildings, Dunfermline.

JANUARY 31.—**Bletchley.**—FILTER HOUSE.—For erection of filter house, &c., for the U.D.C. Mr. J. Chadwick, Civil Engineer, Bletchley, Bucks. Deposit £2 2s.

JANUARY 31.—**Carlton.**—CLUB.—Erection of new Working Men's Club, steward's house, &c., Crookes-lane, Carlton, near Barnsley. Mr. C. F. Moxon, architect, Regent-street South, Barnsley.

JANUARY 31.—**Croydon.**—ALTERATIONS.—For alterations to the engine-room at the Electricity Works, for the T.C. Electrical Engineer, Croydon.

JANUARY 31.—**Duffryn Rhondda.**—ALTERATIONS, &C.—For alterations and extensions of the roof and walls of the Power House at Duffryn Rhondda. Agent, Imperial Navigation Coal Co., Ltd., Duffryn Rhondda, near Port Talbot. Deposit 10s.

JANUARY 31.—**Harrow.**—COTTAGE, &C.—For (1) fencing and gates; (2) draining and levelling and providing hard tennis courts; and (3) erecting cottage, pavilions, &c., at West Harrow Recreation Ground, for the U.D.C. Mr. J. P. Bennetts, Surveyor, Council Offices, Harrow. Deposit £1 each contract.

JANUARY 31.—**Hemel Hempstead.**—COTTAGES.—Erection of 24 cottages (in sections of 12), for the Borough of Hemel Hempstead. Mr. Walter R. Locke, Borough Engineer and Surveyor, Market-square, Hemel Hempstead. Deposit £1.

JANUARY 31.—**Kilmacolm.**—HOUSES.—Erection of two blocks of dwelling-houses, for the Renfrew C.C. Mr. Andrew Robertson, Master of Works, County Buildings, Paisley.

JANUARY 31.—**Linthwaite.**—HOUSES.—Erection of two dwelling-houses at Causewayside, Linthwaite. Mr. F. C. Baxter, architect, Broad Oak, Linthwaite, Huddersfield.

JANUARY 31.—**Lisiane, Ireland.**—ALTERATIONS.—For improvements at National School. Rev. J. M'Kee, Balteagh Manse, Limavady.

JANUARY 31.—**London, N.W.1.**—ALTERATIONS TO GATEWAY.—Alterations to the gateway of St. Pancras House, 4, King's-road, N.W.1, for the parish of St. Pancras. Clerk to the Guardians, Town Hall, Pancras-road, N.W.1.

JANUARY 31.—**Marske-by-the-Sea.**—HOUSE, &C.—The erection of a farmhouse and set of buildings at Loftus. Mr. Thomas E. Senior, Zetland Estate Office, Marske-by-the-Sea. Deposit £2 2s.

JANUARY 31.—**Newport, Pembroke.**—PAINTING.—For the renovation of the Bethlehem Baptist Chapel. Mr. J. Harris, "Penfeeder," Newport, Pem.

JANUARY 31.—**Paddock.**—HOUSES.—Erection of six dwelling-houses off Heaton-road, Paddock. Mr. Joe Ainley, architect, 3, Chapel-hill, Huddersfield.

JANUARY 31.—**Truro.**—REBUILDING.—For taking down and rebuilding the William IVth Inn, Kenwyn-street, Truro, for Walter Hicks & Co., Ltd., The Brewery, St. Austell. Mr. Leonard Winn, architect, Truro and Redruth.

JANUARY 31.—**Whitchurch.**—HOUSES.—For erection of six houses in Smallbrook-road, for the U.D.C. Surveyor, Town Hall, Whitchurch, Salop.

FEBRUARY 1.—**Barry (Glam).**—ERECTION OF 18 HOUSES.—For erection of houses, as follows, for the Barry U.D.C.:—(1) Six semi-detached parlour type houses; (2) 12 semi-detached non-parlour type houses, at Central Estate, College-road site, Barry. Separate quotations required; for each contract is a separate work. Mr. E. R. Hinchliff, F.S.I., Public Offices, Barry.

FEBRUARY 1.—**Burlingham.**—REPAIRS, &C.—For adapting and repairing the farm buildings at Perowne's Farm, Jary's Estate, Newport Farm and Lodge Farm, Burlingham Estate, for the Norfolk C.C. Small Holdings Committee. Mr. Victor Playle, County Land Agent, Shirehouse, Norwich. Deposit £1 1s.

FEBRUARY 1.—**Swansea.**—SCHOOL.—Erection of a new elementary school for 1,308 scholars on the Town-hill Estate, Swansea, for the Education Committee of the County Borough of Swansea. Mr. Ernest E. Morgan, Borough Architect, 3, Prospect-place, Swansea. Deposit £5 5s.

FEBRUARY 1.—**Thropton.**—HALL.—For erection of War Memorial Hall, Thropton. Mr. S. T. Wood, Thropton, Morpeth.

FEBRUARY 1.—**Dewsbury.**—ADDITIONS, &C.—For alterations and additions to Heaton Lodge, Earlsheaton. Messrs. Kirk Sons & Ridgway, architects, Market-place, Dewsbury.

FEBRUARY 2.—**Dewsbury.**—HOUSE.—Erection of a house at Wakefield-road, Messrs. C. H. Marriott, Son & Shaw, Church-street Chambers, Dewsbury.

FEBRUARY 2.—**London, S.E. 18.**—EXTENSION.—Proposed extension of premises, for the Committee of the Woolwich Catholic Club. The Secretary, Woolwich Catholic Club, 28–30, New-road, Woolwich, S.E. 18.

FEBRUARY 2.—**Tadcaster.**—HOUSES.—Erection of six houses in the Parishes of Allerton Bywater, Kippax, Micklefield, and Tadcaster, for the R.D.C. Mr. H. M. Driver, Surveyor, Garforth, near Leeds, and Mr. H. C. Wood, Bromfield-terrace, Tadcaster. Deposit £1 1s.

FEBRUARY 4.—**Aberkenfig (Glam).**—ERECTION OF HOUSES, &c.—For carrying out the following works for the Aberkenfig Building Club: Contract 1, Erecting 30 houses, parlour type, in pairs, complete with boundary walls and drains. Contract 2, Short extension of road, with surface water drainage, &c., planting of trees. Mr. Frank H. Heaven, architect, 39, Coronation-street, Aberkenfig. Deposit, Contract 1, £3 3s.; Contract 2, £2 2s.

FEBRUARY 4.—**Aldershot.**—REPAIRS.—For repair work at 78, Ash-road, for the T.C. Borough Sanitary Inspector, Municipal Buildings, Aldershot.

✱FEBRUARY 4.—**Brentford.**—COTTAGE AND COACH-HOUSE.—Erection of a caretaker's cottage and coach-house at the Isolation Hospital, Clayponds-lane, Brentford, for the Brentford Urban District Council. Mr. W. J. W. Westlake, F.S.I., Engineer and Surveyor to the Council, Clifden House, Brentford.

FEBRUARY 4.—**Bristol.**—EXTENSION.—For extending and altering the offices at Queen-square, Bristol, of the Docks Committee. Messrs. W. S. Skinner & Sons, architects, 27, Orchard-street, Bristol. Deposit £3 3s.

FEBRUARY 4.—**Huddersfield.**—HOUSE, &c.—Alterations to premises; also new caretaker's house for the Lockwood Conservative Club. Mr. Joe Ainley, architect, 3, Chapel Hill, Huddersfield.

✱FEBRUARY 4.—**Scarborough.**—HOUSES.—(*a*) Erection of 50 houses on the Edgehill Park Estate; (*b*) one block of eight houses, Potter-lane, Scarborough; (*c*) one block of nine flats, Longwestgate, Scarborough, for the Council of the Borough of Scarborough. Mr. Harry W. Smith, A.M.I.C.E., Borough Engineer and Surveyor, Town Hall, Scarborough. Deposit £1 1s.

FEBRUARY 4.—**Stirling.**—HOUSES.—Erection of the following houses:—Brightons, Polmont, 42 houses; Redding (Cross-roads), 12 houses; Glen Village, eight houses, for the Eastern District Committee of the Stirling C.C. Mr. T. M. Copland, architect, 76, High-street, Falkirk, for the Brightons scheme, and Messrs. A. & W. Black, architects, 76, High-street, Falkirk, for the Redding (Crossroads) and Glen Village schemes. Deposit £1 1s.

✱FEBRUARY 4.—**Sunbury-on-Thames.**—HOUSES.—Erection of 20 houses in or near Manor-lane, Sunbury, for the Sunbury-on-Thames U.D.C. Mr. Harold F. Coales, A.M.I.C.E., Council Offices, Green-street, Sunbury.

FEBRUARY 5.—**Cardiff.**—HOUSES.—For the erection (in lots) of 250 houses at Ely, for the T.C. Architect, City Hall, Cardiff. Deposit £2 2s.

FEBRUARY 5.—**Limerick.**—RACE-COURSE STAND, &c.—For erecting (1) reinforced concrete stand, and (2) 50 stables, for the Limerick Race Co. Mr. J. O'Malley, Glentworth-street, Limerick.

FEBRUARY 5.—**Sheffield.**—SUB-STATIONS.—(*a*) Erection of transformer sub-station in Upperthorpe; (*b*) alterations and additions to transformer sub-station in Newhall-road, for the T.C. Mr. S. E. Fedden, General Manager, Commercial-street, Sheffield. Deposit £1 1s. each contract.

FEBRUARY 5.—**Ventnor.**—CONVENIENCES.—For altering existing premises and constructing new conveniences at Marlborough-road, for the U.D.C. Mr. D. V. Howard, Surveyor, Town Hall, Ventnor.

FEBRUARY 5.—**Widnes.**—POST OFFICE.—Erection of a new post office at Widnes, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M.O.W., King Charles-street, London, S.W.1. Deposit £1 1s. (payable to the Secretary).

✱FEBRUARY 6.—**Ashton-under-Lyne.**—HOUSES.—Erection and completion of 58 houses (34 Class "A" and 24 Class "B") in pairs, to be erected on the Heys Estate, Montague-road, Ashton-under-Lyne, for the Housing Committee of the Borough of Ashton-under-Lyne. Messrs. W. H. George & Son, architects, 7, Warrington-street, Ashton-under-Lyne. Deposit £1 1s.

FEBRUARY 7.—**Erdington Hall.**—BRIDGE—Rebuilding of Erdington Hall Bridge over the Birmingham and Fazeley Canal, for the Birmingham Tame and Rea District Drainage Board. Mr. A. E. Harris, Clerk, 117, Colmore-row, Birmingham.

FEBRUARY 7.—**Gateshead.**—HOUSES.—Erection of 100 houses of various types and designs on the Carr-hill Building Estate, for the T.C. Borough Engineer Town Hall, Gateshead. Deposit £5.

FEBRUARY 8.—**Tiverton.**—POWER HOUSE.—For building a power-house in connection with the installation of an electric supply, for the T.C. Mr. T. E. Corrigan, Gas Office, Blundell's-road, Tiverton. Deposit £2 2s.

FEBRUARY 9.—**Ashford.**—SHEDDING, &c.—For erecting shedding, offices, stands, and other works for the Agricultural Show to be held at Ashford on July 10, 11 and 12, for the Kent County Agricultural Society. Major R. J. Bacon, secretary, Otham, Maidstone.

FEBRUARY 9.—**Dewsbury.**—HOUSES.—Erection of 56 houses, for the T.C. Borough Surveyor, Town Hall, Dewsbury. Deposit £1 1s.

FEBRUARY 11.—**Bishop's Stortford.**—SWIMMING BATH.—Construction of open-air swimming bath in reinforced concrete, for the U.D.C. Mr. Robert S. Scott, Surveyor, Council Offices, Bishop's Stortford. Deposit £2 2s.

✱FEBRUARY 11.—**Kingston-upon-Thames.**—HOUSES.—Erection of 10 pairs of houses on the housing estate, for the Corporation of the Borough of Kingston-upon-Thames. Borough Surveyor, Town Hall, Kingston-upon-Thames. Deposit £1 1s.

✱FEBRUARY 11.—**London, S.W.19.**—HOUSES.—Erection of 5-roomed houses, 12, 24, or 87 in number, on the Council's Housing Estate, Toynbee-road, Burstow-road, and Dennis Park-crescent, within the Borough, for the Corporation of Wimbledon. Borough Engineer and Surveyor, Town Hall, Wimbledon. Deposit £2 2s.

FEBRUARY 11.—**Mitcham.**—PUBLIC CONVENIENCES.—Erection of public conveniences on the Upper or Fair Green, Mitcham, for the U.D.C. The Surveyor, Broadway House, Mitcham. Deposit 10s. 6d.

FEBRUARY 11.—**Windsor.**—BOILER HOUSE, FIRE-BRICK LINED CHIMNEY, &c.—Construction of boiler house, foundations and setting of Cornish boiler, fire-brick lined chimney, and sundry builders' work in attendance on Engineers, for the Guardians of the Windsor Union. Mr. Walter W. Nobbs, M.I.Mech.E. (the Consulting Engineer in charge of the works), of 50, Fairhazel-gardens, N.W. 6.

✱FEBRUARY 12.—**Reigate.**—PUBLIC CONVENIENCES.—For various works required in the construction of public conveniences in the Market-square, Reigate, for the T.C. of the Borough of Reigate. Borough Surveyor, Municipal Buildings, Reigate.

FEBRUARY 12.—**Wallingford.**—REPAIRS.—For repairs to Casual Ward buildings, for the Board of Guardians. Mr. F. G. Sainsbury, architect, Reading.

FEBRUARY 13.—**Pershore.**—BRIDGE.—Construction of a new bridge over the River Avon, to be carried out in ferro-concrete, for the Worcestershire C.C. Mr. C. F. Gettings, County Surveyor, 30, Foregate-street, Worcester. Deposit £5.

FEBRUARY 26.—**London, E.3.**—BUILDING ADDITIONS, &c.—Building of a nurses' dining-room, alterations and additions, and redecorations at St. Andrew's Hospital, Devon's-road, Bow, E.3, for the Managers of the Poplar and Stepney Sick Asylum District, St. Andrew's Hospital. Messrs. Andrews & Peascod, architects, 135, Bow-road, E.3. Deposit £3.

FEBRUARY 28.—**Wakefield.**—WORKSHOPS.—Supply of 17 sectional wood workshops, for the West Riding C.C. Health Committee. West Riding Architect, County Hall, Wakefield.

NO DATE.—**Barnsley.**—HOUSES.—Erection of 10 houses in Blenheim-road, Barnsley. Mr. N. A. Whitham, architect, "Chronicle" Buildings, Barnsley.

NO DATE.—**Barnsley.**—HOUSES.—Erection of houses in Woodstock-road. Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley.

NO DATE.—**Barnsley.**—PAINTING.—For painting three villas, Huddersfield-road, 18 houses, Agnes-road, and five houses, Pond-street. Mr. C. H. Charlesworth, 45, Huddersfield-road, Barnsley.

NO DATE.—**Dringhouses.**—HOUSE.—Erection of detached house at Dringhouses, near York. Messrs. Fred Mitchell & Sons, architects, 9, Upper Fountaine-street, Albion-street, Leeds.

NO DATE.—**Inverkeithing.**—HOUSES.—For the following works in connection with the erection of 10 houses:—1, Electrician; 2, glazier; 3, painter, for T.C. Mr. P. Reid, Park House, Inverkeithing. Deposit £1 1s.

NO DATE.—**Little Houghton.**—CLUB.—Erection of an Officials' Club at Little Houghton, for the Houghton Main Colliery Co., Ltd. Messrs. Dyson, Cawthorne & Coles, Architects, 10, Regent-street, Barnsley.

NO DATE.—**Methley.**—RENOVATIONS, &c.—For the heating, lighting, renovating, &c., of the Methley Institute. Mr. Thos. Thompson, Surveyor, Red House, Methley.

NO DATE.—**Puncheston (Pemb).**—PLASTERING.—For the internal and external plaster work in connection with the new vicarage at Puncheston. Mr. E. G. Thomas, builder, St. David's (Pembroke).

NO DATE.—**Stoke-on-Trent.**—HOUSES.—Erection of 38 houses, for the Stafford Coal and Iron Co., Ltd. Messrs. Lynam & Bloore, Architects, Wolfe-street, Stoke-on-Trent.

FURNITURE, MATERIALS, etc.

JANUARY 26.—**Chelmsford.**—MATERIALS.—Supply to the Highways Committee of the Essex C.C. stoneware pipes, distilled tar, broken granite, tarred slag, and lubricating oil. Mr. Wm. H. Morgan, County Surveyor, Old Court, Chelmsford.

JANUARY 26.—**Howden.**—MATERIALS.—Supply of granite, whinstone, slag, tarred macadam, refined tar, and tar compounds, to the R.D.C. Mr. Bernard Shaw, Surveyor, Howden, E. Yorks.

JANUARY 26.—**Northallerton.**—MATERIALS.—Supply to the North Riding of Yorkshire C.C. of roadstone, tar and bituminous mixtures, oils and grease, &c. County Surveyor, County Hall, Northallerton.

JANUARY 26.—**Pembroke.**—ROAD MATERIALS, &c.—For supply to the Pembroke R.D.C., for a period of one year from April 1 next, of all the materials requisite for the maintenance of the highways in twenty-eight different parishes. Separate quotation of each parish. Also for supply on hire system of steam rollers and team labour, &c., and steam coal during the same period. Mr. F. S. Jones, Clerk to the Council, Main-street, Pembroke.

JANUARY 26.—**Reigate.**—MATERIALS.—For the supply of road and other materials to the R.D.C. Mr. A. J. Head, 48, High-street, Reigate.

JANUARY 28.—**Basingstoke.**—TAR.—Supply of tar or bituminous tar compound to the T.C. Mr. J. H. Drew, Borough Surveyor, Basingstoke.

JANUARY 28.—**Beverley.**—STONE.—Supply of 5,000 to 6,000 tons of stone for macadamising roads to the U.D.C. Mr. E. Picker, Surveyor, Beverley.

JANUARY 28.—**Camberwell.**—MATERIALS.—Supply of road and other materials, &c. Borough Engineer, Town Hall, Camberwell.

JANUARY 28.—**Sleaford.**—MATERIALS.—Supply of granite and slag, &c., to the R.D.C. Mr. E. H. Godson, Clerk, Northgate, Sleaford.

JANUARY 28.—**Uckfield.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. E. W. Ray-Johnson, surveyor, Buxted, Sussex.

JANUARY 29.—**Bermondsey.**—MATERIALS.—Supply of road and other materials for six months to the B.C. Mr. F. Ryall, Town Clerk, Town Hall, Bermondsey, S.E.

JANUARY 29.—**London.**—TOOLS, &c.—For supply of Sheffield tools to the Great Indian Peninsula Railway Co. Secretary, 48, Copthall-avenue, E.C.2. Charge 5s.

JANUARY 30.—**Ashford.**—TAR.—Supply of 20,000 gallons of No. 1 dehydrated coal gas tar, and similar preparations, for tarpainting roads, to the U.D.C. Mr. Wm. Terrill, Surveyor, 5, North-street, Ashford, Kent.

JANUARY 30.—**Islington.**—MATERIALS.—For electrical and engineers' stores, for the B.C. Borough Electrical Engineer, 60, Eden-grove, Islington, N.

JANUARY 30.—**London.**—BRICKS.—For supply of (1) sand-faced red facing bricks; (2) grooved Fletton bricks, grooved wire cut bricks or hard "seconds" stock to Tooting Bec Mental Hospital Extensions, for the Metropolitan Asylums Board. Offices, Victoria Embankment, E.C.4.

JANUARY 30.—**West Ashford.**—MATERIALS.—Supply of gravel, flints, and Kentish ragstone to the R.D.C. Mr. T. W. Dickinson, Surveyor, Tufton Hall, Ashford, Kent.

JANUARY 31.—**Aylesbury.**—MATERIALS.—Supply of granite, slag and tarmacadam to the Bucks C.C. Mr. E. Winfield, County Surveyor, County Hall, Aylesbury.

JANUARY 31.—**Birmingham.**—TAR.—Supply of 850 tons of No. 1 tar, for the T.C. Mr. Herbert H. Humphries, City Engineer, Council House, Birmingham.

JANUARY 31.—**Cheltenham.**—MATERIALS.—For supply of materials to various departments of the T.C. for one year. Mr. J. S. Pickering, Borough Engineer, Municipal Offices, Cheltenham.

JANUARY 31.—**France and Belgium.**—HEADSTONES.—Supply of 12,000 headstones, packed and delivered F.O.R., to be divided into a number of contracts none of which shall be for less than 100 headstones, for the Imperial War Graves Commission. The Secretary, Works Department, Imperial War Graves Commission, 82, Baker-street, London, W.1.

JANUARY 31.—**Kettering.**—TAR, &c.—For supply of (1) refined tar, (2) ½-in. chippings, (3) ¼-in. Bedford gravel, for one year, for the R.D.C. Mr. H. J. Parker, surveyor, George-street, Kettering.

JANUARY 31.—**Liverpool.**—MATERIALS.—For supply of timber, ironmongery, steel, wrought-iron, and files, iron castings, glass, &c. General Manager, Liverpool Corporation Tramways, 24, Hatton-garden, Liverpool.

JANUARY 31.—**Liverpool.**—STORES.—For various stores for the Electricity Dept. of the T.C. City Electrical Engineer, Liverpool.

JANUARY 31.—**Tring.**—MATERIALS.—For supply of blast furnace slag, flints, hoggin and crusted shingles to the U.D.C. Mr. H. N. Hedges, Surveyor, Tring.

FEBRUARY 1.—**Cowbridge.**—SUPPLIES.—For supply to Bridgend and Cowbridge Board of Guardians of hardware, ironmongery, drapery, boots, &c., for Cottage Homes and Workhouse; also for supply of boots for relief recipients in Maesteg, Bridgend and Cowbridge relief districts. Mr. R. Hamar Cox, Clerk to the Guardians, Union Offices, Bridgend.

FEBRUARY 1.—**Folkestone.**—MATERIALS.—For the supply of brooms and brushes, cast-iron goods, glass, iron and ironmongery, oils, paint, varnish, &c., Portland cement and timber to the T.C. Mr. A. E. Nichols, Borough Engineer, Municipal Offices, Folkestone.

FEBRUARY 1.—**Grimsby.**—MATERIALS.—Supply of highways materials and sanitary requirements to the T.C. Mr. H. Gilbert Whyatt, Borough Engineer, Municipal Buildings, Grimsby.

FEBRUARY 1.—**Hatfield.**—MATERIALS.—Supply of granite, slag and tar macadam, for the Herts C.C. Mr. A. E. Prescott, County Surveyor, Hatfield.

FEBRUARY 1.—**Headington.**—GRANITE.—Supply of granite chippings, for the R.D.C. Mr. A. Walker, Windmill-road, Headington, Oxford.

FEBRUARY 2.—**Glamorgan.**—ROAD MATERIAL.—For supply to Main Roads Committee of the Glamorgan C.C. of road materials and haulage for year ending March 31, 1925: (1) Eastern Division—Extreme points—Glyn-Neath, Rhymney Bridge, Caerphilly, Bedwas, Whitchurch and Nantgarw; (2) Southern Division: Extreme points of which are—Culverhouse Cross–Ely, Llandaff, Whitchurch, Llantrisant, Bryncethin, Coytrahen, Port Talbot, Nottage, Ewenny, Llantwit Major, and Aberthaw; (3) Western Division: Extreme points—Port Talbot, Neath, Glyn-Neath, Ystalyfera, Brynawman, Morriston, Pontardulais, Lougher, Killay and Port Eynon. Separate tenders for material and haulage. Mr. George A. Phillips, County Surveyor, County Hall, Cardiff.

FEBRUARY 2.—**Glamorgan.**—TOOLS AND IRONMONGERY.—For supply to the Glamorgan C.C. Main Roads Committee of tools and ironmongery of sufficient quantity for 12 months' use, as from April 1 next. Mr. George A. Phillips, County Surveyor, County Hall, Cardiff.

FEBRUARY 2.—**Lydd.**—TAR.—Supply of 100 barrels of crude tar, and (or) 100 barrels of dehydrated tar, to the T.C. Mr. T. W. C. Laslett, Borough Surveyor, Town Hall, Lydd.

FEBRUARY 2.—**Sutton-in-Ashfield.**—MATERIALS.—Supply of tar-macadam and broken slag to the U.D.C Mr. W. Burn, Surveyor, Sutton-in-Ashfield.

FEBRUARY 2.—**Wokingham.**—MATERIALS.—Supply of tar-macadam granite, limestone and granite to the R.D.C. Mr. A. H. Prince, Surveyor, Office, Wokingham.

FEBRUARY 3.—**Rishworth.**—MATERIALS.—Supply of road stone and tar to the U.D.C. Mr. Joseph Walshaw, Clerk, Halifax.

FEBRUARY 4.—**Hendon.**—MATERIALS.—Supply of road materials, iron castings, &c., to the U.D.C. Mr. A. O. Knight, Surveyor, Town Hall, Hendon.

FEBRUARY 4.—**Little Hulton.**—MATERIALS.—Supply of road and other materials to the U.D.C. Mr. James H. Heyes, Clerk, Council Offices, Little Hulton, near Bolton.

FEBRUARY 4.—**Renfrew.**—ROAD MATERIALS.—Supplying with metal sections of roads in the First or Upper District of the County of Renfrew for one year, also for borders, setts, and chips, for the Renfrew C.C. Mr. Robert Drummond, Road Surveyor, 18, Forbes-place, Paisley.

FEBRUARY 4.—**Sunbury-on-Thames.**—TAR.—Supply of 12,000 gallons of refined coal tar to the U.D.C. Mr. Harold F. Coales, Surveyor, Council Offices, Sunbury-on-Thames.

FEBRUARY 4.—**Swindon.**—MATERIALS.—Supply of materials for one year to the T.C. Mr. S. C. Baggott, Borough Surveyor, 34, Regent-circus, Swindon.

FEBRUARY 4.—**Warrington.**—MATERIALS.—For supply of materials to the Paving and Sewerage Committee for one year, for T.C. Mr. A. M. Kerr, Borough Surveyor, Town Hall, Warrington.

FEBRUARY 5.—**Chingford.**—MATERIALS.—Supply of road materials to the U.D.C. Mr. L. C. Bowen, Clerk, 34, Station-road, Chingford.

✱FEBRUARY 5.—**London, N.W.3.**—MATERIALS OR SERVICES.—Tenders for various works, materials or services, for one year, from April 1 next, for the Hampstead B.C. Mr. Arthur P. Johnson, Town Clerk, Town Hall, Haverstock-hill, N.W.3.

FEBRUARY 5.—**Whitchurch.**—GRANITE.—Supply of 2½-in. granite to the R.D.C. Mr. W. J. Hiscox, Surveyor, Winchester-street, Whitchurch, Hants.

FEBRUARY 6.—**Bury St. Edmunds.**—MATERIALS.—Supply of road and other materials to the West Suffolk C.C. Mr. E. H. Bond, County Surveyor, Shire Hall, Bury St. Edmunds.

FEBRUARY 6.—**Buxton.**—MATERIALS.—For supply of road and other materials for nine months, for T.C. Mr. F. Langley, Borough Engineer, Town Hall, Buxton.

FEBRUARY 7.—**Alton.**—MATERIALS.—Supply of broken granite and limestone to the R.D.C. Mr. A. O. Crew, Rodney House, Alton.

FEBRUARY 7.—**Wisbech.**—ROAD MATERIALS.—Supply of broken granite, slag and tar macadam to the Isle of Ely C.C. Mr. H. Farr Simpson, County Surveyor, Wisbech.

FEBRUARY 8.—**Gillingham.**—MATERIALS.—Supply of road and other materials to the T.C. Mr. J. L. Redfern, Borough Engineer, Gillingham, Kent.

FEBRUARY 9.—**Thirsk.**—MATERIALS.—Supply of road materials, pipes, tools, &c., to the R.D.C. Mr. J. W. Lupton, Surveyor, Thirsk.

FEBRUARY 9.—**Trowbridge.**—MATERIALS.—Supply of 350 tons ¼ or ½ in. granite or limestone chippings to the U.D.C. Mr. Geo. W. J. Clark, Surveyor, Town Hall, Trowbridge.

FEBRUARY 12.—**Tadcaster.**—MATERIALS.—For road material, stores, &c., for the R.D.C. Mr. Geo. A. Bromet, Clerk, Kirkgate, Tadcaster.

✱FEBRUARY 13.—**London, E.C.1.**—STORES, &C.—Supply of the undermentioned stores, &c., for the periods of six or twelve months, commencing April 1, 1924, as the Metropolitan Water Board may decide. Chief Engineer, Metropolitan Water Board, New River Head, 173, Rosebery-avenue, E.C.1, by personal application (Room 155) or upon forwarding a stamped addressed brief envelope.

FEBRUARY 13.—**Middlesex.**—ROAD MATERIALS.—Supply of granite, tarred slag and granite chippings to the Middlesex C.C. Mr. A. Dryland, County Engineer, Middlesex Guildhall, Westminster, S.W.1.

FEBRUARY 14.—**Liverpool.**—MATERIALS.—Supply of glass for street lamps, lamp standards, &c., to the T.C. City Lighting Engineer, 15, Highfield-street, Liverpool.

✱FEBRUARY 14.—**London, S.W.**—VARIOUS MATERIALS.—Supply of various materials and services for various periods, for the Lambeth B.C. Mr. Osmond Cattlin, Assoc.M.Inst.C.E. (chartered civil engineer), Borough Engineer, Town Hall, Brixton-hill, S.W.2.

FEBRUARY 29.—**Canterbury.**—MATERIALS.—Supply of road and other materials to the T.C. Mr. P. H. Warwick, City Surveyor, Canterbury.

FEBRUARY 29.—**Ossett.**—MATERIALS.—For supply of materials, stores, workmen's tools, &c., for one year, for T.C. Borough Surveyor, Town Hall, Ossett.

NO DATE.—**Carlisle.**—MATERIALS.—For supplying materials for use at Garlands Mental Hospital, in connection with further Fire Protection Works. Mr. H. E. Ayris, Architect to the Committee, Carlisle.

NO DATE.—**Manchester.**—BRICKS.—Supply of 4,000,000 good common bricks, to be supplied at the rate of 70,000 per week. Mr. P. Cummings, A.R.I.B.A., 51, King-street, Manchester.

ENGINEERING, IRON AND STEEL.

JANUARY 28.—**Dublin.**—BITUMEN BOILER.—For supply of 1,000-gallon bitumen boiler, for the T.C. City Engineer, Glasgow.

JANUARY 28.—**London.**—BRIDGES.—Supply to the Bengal-Nagpur Railway Company of nine spans, deck span girder bridges, 60 ft. spans; six spans, deck span girder bridges, 40 ft. spans. Offices, 132, Gresham House, Old Broad-street, E.C.2. Charge £1.

JANUARY 28.—**London.**—IRON FENCING.—Supply and erection of wrought iron unclimbable fencing at parks under the control of the L.C.C. Chief Officer, Parks Department, The County Hall, Westminster Bridge, S.E. 1.

JANUARY 28.—**Manchester.**—GRIDS, &C.—Supply of ventilating grids and other castings, for 12 months. Mr. J. Irvine, Manager of the Drainage Branch, Public Health Dept., Civic Buildings, 1, Mount street, Manchester.

JANUARY 28.—**Shrewsbury.**—BRIDGE.—For widening of the Greyfriars footbridge across the River Severn, for the T.C. Mr. A. W. Ward, Borough Engineer, Guildhall, Shrewsbury.

JANUARY 29.—**London.**—GIRDERS.—Supply to Director-General, India Store Department, of girders. Branch 15, Belvedere-road, S.E.

JANUARY 30.—**Girvan.**—PIPES.—Supply of 520 tons of cast-iron pipes and special castings of 8 in., 7 in. and 3 in. dia., to the T.C. Messrs. Warren & Stuart, 94, Hope-street, Glasgow. Deposit £2 2s.

JANUARY 30.—**London.**—VARIOUS WORKS.—(*a*) Installation of a 144-tube economiser, (*b*) installation of a new continuous drying machine, (*c*) engineering work for new central boiler house, (*d*) revising the laundry engineering arrangements, (*e*) installing electric light and power wiring in boiler house and laundry, (*f*) covering of boilers, steam feed and suction mains, &c., with non-conducting composition, at the South-Western Fever Hospital, Landor-road, Stockwell, S.W.9, for the Metropolitan Asylums Board. Offices of the Board, Victoria Embankment, E.C.4. Deposit £1 each contract.

JANUARY 30.—**London and Carshalton.**—BOILER WORK, &C.—(*a*) Installation of a two-roller ironing machine at Goldie Leigh Homes, Abbey Wood; (*b*) conversion of two steam boilers from mechanical stoking to hand firing at Queen Mary's Hospital for Children, Carshalton, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C. 4. Deposit £1 each contract.

JANUARY 30.—**Middleton.**—PIPES.—Supply of cast-iron pipes to the T.C. Gas Manager, Gas Works, Townley-street, Middleton.

JANUARY 30.—**Wembley.**—BRIDGE WIDENING.—For widening of the L. & N.E. Railway bridge in Wembley Hill-road. Mr. W. H. Lewis, Acting Surveyor, Council Offices, Wembley, Middlesex. Deposit £2 2s.

JANUARY 31.—**Alnwick.**—WEIGHBRIDGE.—For installing a weighbridge to weigh up to 3 tons, for the U.D.C. Mr. J. Temple Robson, Surveyor, Council Offices, Alnwick.

JANUARY 31.—**Littlehampton.**—BOILER.—Supply of horizontal boiler with "Galloway" tubes at Warningcamp Waterworks, for the U.D.C. Mr. L. G. Dashper, Surveyor, Town Offices, Littlehampton.

JANUARY 31.—**North Shields.**—STAITH.—Extension of No. 3A coal shipping staith, Whitehill Point, North Shields, for the Tyne Improvement Commissioners. Mr. Albert Blacklock, Secretary, Bewick-street, Newcastle-upon-Tyne. Deposit £2 2s.

JANUARY 31.—**Poole.**—TRAINING BANK.—For construction of a training bank on South Haven side of entrance to Poole Harbour, for Poole Harbour Commissioners. Mr. H. Kendall, Surveyor, Poole, Dorset. Deposit £3 3s.

JANUARY 31.—**Skegness.**—HEATING.—For heating Council offices by low-pressure hot-water system, for the U.D.C. Mr. R. H. Jenkins, Surveyor, Council Offices, Skegness. Deposit £1 1s.

FEBRUARY 1.—**London.**—STEELWORK, &C.—Supply to Director-General, India Store Dept., of (1) overhead electric travelling crane, to lift 15 tons; (2) structural steelwork, &c., for shed. Branch 12, Belvedere-road, S.E.

FEBRUARY 2.—**Harrow.**—ROLLER.—Supply of 8-ton or 10-ton compound steam-roller with scarifier to the U.D.C. Mr. J. P. Bennetts, Surveyor, Council Offices, Harrow.

FEBRUARY 2.—**Todmorden.**—BRIDGE.—Reconstruction in ferro-concrete of Lincholme Bridge, for the West Riding C.C. West Riding Surveyor, County Hall Wakefield. Deposit £1.

FEBRUARY 4.—**Dublin.**—STEELWORK.—Supply to the Midland Great Western Railway of Ireland of steelwork for canal footbridge, Maynooth. Chief Engineer, Broadstone Terminus, Dublin. Charge 4s.

FEBRUARY 4.—**Manchester.**—CRANE.—For one locomotive jib crane and grab. Mr. S. L. Pearce, Electrical Engineer, Dickinson-street, Manchester. Deposit £1 1s.

FEBRUARY 4.—**Salford.**—COOKING EQUIPMENT.—For a complete cooking and kitchen equipment at Ladywell Sanatorium, for the T.C. Medical Officer of Health, 143, Regent-road, Salford.

FEBRUARY 5.—**Egypt.**—PUMPING PLANT.—For supply and erection of a pumping plant to replace an existing steam plant at Qussassin. Inspecting Engineer, Egyptian and Sudan Governments, Queen Anne's Chambers, S.W. 1. Charge 10s.

FEBRUARY 5.—**New Zealand.**—GIRDER SPANS.—Supply of plate girder spans to the Public Works Tender Board, New Zealand, for the Stratford Main Trunk Railway. Department of Overseas Trade, 35, Old Queen-street, S.W. Reference 12569/ED/EC.

FEBRUARY 5.—**Richmond (Surrey).**—PIPES.—Supply of 80 tons of 9 in. and 7 in. dia. cast-iron pipes and special castings to the T.C. Mr. H. Will. Apted, Water Engineer, Waterworks, Richmond.

FEBRUARY 8.—**Tiverton.**—POWER STATION.—For buildings and plant in connection with the installation of an electric supply in Tiverton. Mr. T. E. Corrigan, Gas Office, Blundells-road, Tiverton. Deposit £2 2s.

FEBRUARY 11.—**Gainsborough.**—PUMPING PLANT.—For engine and pumping plant, for the U.D.C. Mr. S. W. Parker, Waterworks Engineer, Council Offices, Gainsborough. Deposit £2 2s.

FEBRUARY 11.—**Windsor.**—RECONSTRUCTION OF ENGINEERING SERVICES.—Reconstruction of the engineering services at the Poor Law Institution, Old Windsor, Berks, for the Guardians of the Windsor Union. Constructors must tender for the whole of the work. Mr. Walter W. Nobbs, M.I.Mech.E. (the Consulting Engineer in charge of the works), of 50, Fairhazel-gardens, N.W. 6. Deposit £5 5s.

FEBRUARY 12.—**Durham.**—BRIDGES.—Construction of new bridges and the widening of existing bridges, for the Durham C.C., viz.: (1) New Derwent Bridge, near Swalwell (three spans and raised approaches); (2) new Lambton Bridge, near Chester-le-Street (three spans and improvement of approaches); (3) new bridge at Croxdale (four spans and new approaches); (4) widening of Browney Bridge near Croxdale; (5) Haughton-le-Skerne new bridge, near Darlington (one span and diverting approaches); (6) Gaunless Bridge, at Bishop Auckland (two reinforced concrete culverts and embankments); (7) widening of St. Helen's Auckland Bridge; (8) Great Burdon Bridge, near Darlington (underpinning foundations and strengthening existing approaches); (9) Whitton, near Stockton (new bridge and approaches); (10) Langley Bridge, near Durham (widening existing structure); (11) Whitehill Gate Bridge, near Chester-le-Street (rebuilding and widening); (12) Ryhope Dene Bridge, near Ryhope (reinforced concrete culverts and embankments). Mr. A. E. Brookes, County Engineer, Shire Hall, Durham. Deposit £2 2s.

FEBRUARY 12.—**Truro.**—FLOATING BRIDGE.—Construction of a large steam chain floating bridge for use on its ferry service between Devonport and Torpoint, for the Cornwall C.C. Mr. W. L. Platts, Clerk, County Hall, Truro. Deposit £2 2s.

FEBRUARY 14.—**Argentine.**—POWER STATION.—For the construction of a central electric power station of 15,000 h.p., for the Argentine State Oilfields Administration. Department of Overseas Trade, 35, Old Queen-street, S.W.

FEBRUARY 18.—**Bristol.**—ELEVATOR.—For the construction of a floating pneumatic grain elevator, to handle 150 tons per hour, at the Avonmouth Docks, for the Docks Committee. Mr. T. A. Peace, Engineer, Port of Bristol. Deposit £5.

FEBRUARY 18.—**Dublin.**—STEELWORK.—Supply to the Midland Great Western Railway of Ireland Company of steelwork, for Bridge No. 206. Chief Engineer, Broadstone Terminus, Dublin. Charge 4s.

FEBRUARY 27.—**Madras.**—PIPES.—Supply of cast-iron pipes, special castings, &c., to the T.C. Messrs. J. Mansergh & Sons, agents to the Corporation, 5, Victoria-street, S.W.

MARCH 1.—**Jamaica.**—DAM.—For the construction of a cyclopean masonry dam and contingent works required in connection with the extension of the Kingston and St. Andrews Water Works. Crown Agents for the Colonies, 4, Millbank, London, S.W.1.

MARCH 8.—**South Africa.**—POWER STATION.—For steel frame buildings for power station and equipment of power station, &c., for electrification of railways in the neighbourhood of Cape Town, for the Union of South Africa Electricity Supply Commission. Messrs. Merz & McLellan, 32, Victoria-street, S.W. Deposit £10 10s.

MARCH 31.—**Egypt.**—PUMPING PLANT.—Supply and erection of a pumping plant at Boscili, for the Egyptian Ministry of Public Works. Inspecting Engineer, Egyptian and Sudan Governments, Queen Anne's Chambers, Westminster, S.W. 1.

MAY 1.—**China.**—BRIDGE.—**The Commercial Councillor at Peking has forwarded to the Department of Overseas Trade copies of the official text of a call for tenders by the Hai Ho Conservancy Commission, for the erection of a bridge over the Hai Ho at Tientsin. Tenders must be in the hands of the Commission before noon on May 1, 1924. The cost of erecting the new bridge has been roughly estimated at Tls. 700,000, say £105,000. Department of Overseas Trade, 35, Old Queen-street, S.W. 1. Reference 11647/F.E./E.C./2.**

MAY 1.—**Egypt.**—ROOFS, &C.—Construction of steel roofs and shelter of Alexandria new station, for the Egyptian State Railways. Inspecting Engineer, Egyptian and Sudan Governments, Queen Anne's Chambers, Broadway, Westminster, S.W. Charge £6 3s.

ROAD, SANITARY, AND WATER WORKS.

JANUARY 26.—**London.**—DRAINAGE, &C.—For drainage work and earthwork bridges in connection with construction of new arterial roads, viz.: Orpington by-pass, Bexley Heath by-pass, West Wickham and Farnborough by-passes, for Ministry of Transport. Chief Engineer, Arterial Roads' Department, Ministry of Transport, 7, Whitehall-gardens, S.W. 1. Deposit £25.

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JANUARY 26.—**Morley.**—ROADS.—For the surfacing of verges with red shale, planting of privets, and other incidental work on Victoria-road housing site, for the T.C. Mr. F. Turner, Borough Engineer, Town Hall, Morley.

JANUARY 26.—**Penarth.**—ROAD WORKS.—For scarifying, hauling and spreading, metalling, and gravelling and rolling with 10-ton steam-roller portions of the Penarth-Cardiff-road, for the road proprietors. Mr. E. W. M. Corbett, 3, Castle-street, Cardiff.

JANUARY 28.—**Alnwick.**—WATER MAINS.—For providing and laying 3,675 yds. of 4 in. cast-iron socket pipes along the road from Hawkhill to Alnmouth, for the R.D.C. Clerk, 24, Fonkle-street, Alnwick.

JANUARY 28.—**Amsterdam.**—PAVING.—For carrying out of about 150,000 super meters of asphaltic or other noiseless paving on foundation. Chief Engineer of Public Works, Paving Department, Town Hall, Amsterdam. Deposit £2 2s.

JANUARY 28.—**Kirkintilloch.**—WATER WORKS.—For forming roads, &c., and laying pipes in connection with the installation of a pumping plant at Antermony Loch, for the T.C. Messrs. W. R. Copland & Sons, Civil Engineers, 146, West Regent-street, Glasgow. Deposit £2 2s.

JANUARY 28.—**London, S.E.1.**—ROADS.—Completion of the carriageways and footways of certain roads on the Roehampton Housing Estate, Putney, in the Metropolitan Borough of Wandsworth, comprising surfacing carriageways with tarred slag macadam, paving footways with artificial stone and other work. Administrator of Housing Development Schemes Old County Hall, Spring-gardens, S.W.1. Deposit £2.

JANUARY 28.—**Loughborough.**—SEWER.—For construction of sanitary pipe sewers in Forest-road, for the R.D.C. Messrs. A. E. King & Co., architects, 19, Baxter Gate, Loughborough. Deposit £3 3s.

JANUARY 28.—**Oswestry.**—WATER MAINS.—Provision and laying of 1,774 yds. of 4 in. and 2,556 yds. of 3 in. diameter cast-iron water mains at Daywell and Hengoed, for the R.D.C. Messrs. Berrington, Son & Watney, Prudential Chambers, Lichfield-street, Wolverhampton. Deposit £5 5s.

JANUARY 28.—**Sheffield.**—SEWER.—Construction of 970 yds. of brick and concrete storm sewer in the Upperthorpe District, for the T.C. Mr. W. J. Hadfield, City Surveyor, Town Hall, Sheffield. Deposit £2 2s.

JANUARY 28.—**Weardale.**—ROADS.—For road diversion on Wolsingham to Tow Law-road, including construction of reinforced culvert, for the R.D.C. Mr. G. W. Eggleston, Stanhope, co. Durham.

JANUARY 29.—**Amble.**—WATER MAINS, &C.—For laying 420 yds. of cast-iron water main and 320 yds. of earthenware sewer, for the U.D.C. Mr. W. Burton, Surveyor, Amble.

JANUARY 29.—**Consett.**—ROADS, &C.—For 300 yards lin., and sewers, and 230 yards lin., with tarpaving and other general works, for the U.D.C. Mr. Frank A. Coyle, Architect, 29, Newmarket-street, Consett. Deposit £2 2s.

JANUARY 29.—**Leyton.**—ROADS.—For making up of Essex and other roads, for the U.D.C. Mr. E. H. Essex, Surveyor, Town Hall, Leyton. Deposit £10.

JANUARY 29.—**London.**—SEWER.—Construction of an 8 ft. internal diameter sewer in brick and iron of a total length of about 2¼ miles, Woolwich and Greenwich, for the L.C.C. Chief Engineer, Old County Hall, Spring-gardens, S.W.1. Deposit £10.

JANUARY 29.—**Rogerstone.** — EARTHWORKS. — For earthworks at Rogerstone, near Newport, Mon, for the G.W.R. Co. Engineer, High-street Station, Newport.

JANUARY 30.—**Girvan.**—WATERWORKS.—Supplying and laying six miles of cast-iron pipes, together with the construction of two break pressure tanks, &c., for the T.C. Messrs. Warren & Stuart, 94, Hope-street, Glasgow. Deposit £2 2s.

JANUARY 30.—**Hemel Hempstead.**—ROADS, &C.—Construction of tar macadam surfaced road about 175 yards in length, for the T.C. Mr. W. R. Locke. Borough Engineer, Hemel Hempstead. Deposit £1 1s.

JANUARY 30.—**Wallsend.**—SANITARY.—For the conversion of cell privies into water closets, for the T.C. Borough Surveyor, Town Hall, Wallsend.

JANUARY 30.—**Wembley.**—ROADS.—Execution of road works in Wembley Hill-road contingent upon the widening of the bridge over the L. & N.E. Railway (Great Central Service), for the U.D.C. Mr. Walter H. Lewis, Surveyor, Council Offices, Wembley. Deposit £2 2s.

JANUARY 31.—**Bilston.**—SEWAGE DISPOSAL WORKS, —Construction of storm-water tanks, screening bay, detritus tanks, diversion of outfall sewer, cast-iron and stoneware pipes, &c., for the U.D.C. Messrs. Dodd Dodd & Watson, County Chambers, Corporation street, Birmingham. Deposit £5.

JANUARY 31.—**Newport (Mon).**—SEWERAGE WORKS. —For carrying out additional sewerage works on the St. Julian Estate, for the Newport B.C. Trade union wages and hours observance conditions in contract. Borough Engineer, Town Hall, Newport. Deposit £2 2s.

JANUARY 31.—**Southend.**—ROADS.—For making-up of Acacia-drive and Station-road (Section 1), Northumberland-avenue (Section 1), and Brook-road, for the T.C. Mr. Robert H. Dyer, Borough Engineer, Southend-on-Sea. Deposit £2.

JANUARY 31.—**Strood (Kent).**—ROADS.—For widening Gravesend-road, at Singlewell, for the R.D.C. Mr. L. Randerson, surveyor, Meopham, Gravesend.

FEBRUARY 1.—**Merton.**—ROADS.—For widening 110 yds. of Kingston-road, for the U.D.C. Mr. G. Jerram, Surveyor, Council Offices, Merton, S.W.

FEBRUARY 1.—**Newport (Mon).**—RESURFACING.—For resurfacing of the roadway over the Relief Bridge crossing the River Usk with asphaltic pavement or other approved durable material, for the Newport B.C. Trade union wages and hours rates clauses in contract. Borough Engineer, Town Hall, Newport (Mon). Deposit £2 2s.

FEBRUARY 1.—**Stafford.**—ROADS.—For laying surface water sewers and making-up carriageway, &c., at Doxey, for the T.C. Mr. W. Plant, Borough Engineer, Borough Hall, Stafford. Deposit £1 1s.

FEBRUARY 1.—**Wallington.** — TARSPRAYING. — For work of tarspraying roads within the district for the year, for U.D.C. Mr. S. F. R. Carter, Surveyor, Council Offices, Wallington.

FEBRUARY 2.—**Durham.**—ROADS, &C.—Construction of roads and sewers in connection with their housing scheme at Bearpark, for the R.D.C. Mr. Geo. Gregson, Surveyor, 38, Saddler-street, Durham.

FEBRUARY 2.—**Harrow.**—ROADS.—For making-up Rosebank-avenue and Fernbank-avenue, for the U.D.C. Mr. J. Percy Bennetts, Surveyor, Council Offices, Harrow.

FEBRUARY 2.—**Hythe.**—ROADS, &C.—Construction of roads and laying of sewers and water mains in various parts of the Borough, for the T.C. Mr. Walter F. Rickford, Borough Surveyor, 114, High-street, Hythe. Deposit £3 3s.

FEBRUARY 2.—**Nuneaton.**—SEWER.—For construction of 400 yds. of 9 in. earthenware pipe sewer, for the T.C. Mr. R. C. Moor, Borough Engineer, Municipal Offices, Nuneaton. Deposit £2 2s.

FEBRUARY 4.—**Loughborough.**—ROADS.—Making-up Knightthorpe-road, for the T.C. Mr. A. H. Walker, Borough Surveyor, Town Hall, Loughborough. Deposit £3 3s.

FEBRUARY 4.—**Southborough.**—HEADINGS.—For driving 100 yds. of headings at the Waterworks at Upper Haysden, for the U.D.C. Messrs. G. & F. W. Hodson, Loughborough. Deposit £5 5s.

FEBRUARY 5.—**Cheriton.**—ROADS.—For private street improvement works in Marler-road and Kent-road, for the U.D.C. Mr. A. S. Lilley, Surveyor, Public Offices, Cheriton.

FEBRUARY 5.—**Easington.**—ROADS.—For making-up a number of streets, for the R.D.C. Mr. R. Urwin Harper, Highway Surveyor, Castle Eden, co. Durham.

✱FEBRUARY 5.—**London, N.W.3.**—HOUSE REFUSE. —Daily removal and disposal of pulverised house refuse from the Dust Disposal Dept., adjoining the Metropolitan Railway, West Hampstead Station, N.W.6, for the Hampstead B.C. Mr. Arthur P. Johnson, Town Clerk, Town Hall, Haverstock-hill, N.W.3.

FEBRUARY 5.—**Sedbergh.**—WATER SUPPLY.—For laying about 2,200 lin. yds. of 5 in., 4 in., and 3 in. cast-iron pipes, construction on an intake tank, mechanical filters, concrete service tank (95,000 galls.), &c., for the R.D.C. Messrs. Taylor & Wallin, Commercial Union Buildings, 47, Pilgrim-street, Newcastle-on-Tyne. Deposit £5.

FEBRUARY 5.—**Swansea.**—ROADS.—Supplying and laying asphalt paving, for the T.C. Mr. J. R. Heath, Borough Surveyor, Guildhall, Swansea.

FEBRUARY 5.—**Whitchurch.**—ROLLING.—For steam rolling in their district for one year, for the R.D.C. Mr. John T. P. Clarke, Clerk, Whitchurch, Hants.

FEBRUARY 6.—**Birmingham.**—SEWAGE DISPOSAL.—For the reconstruction of the sewage disposal plant and drains at Wassell-grove Convalescent Home, near Stourbridge, for the Board of Guardians. Mr. James Curtis, Clerk, Union Offices, Edmund-street, Birmingham. Deposit £1 1s.

FEBRUARY 6.—**Rhoose (Glam).**—WATER MAINS.—For providing and laying of about 700 lineal yds. of 4-in. cast-iron water main, with all necessary valves, fittings, &c., at Fontigary-road, Rhoose (near Barry), for the Cardiff R.D.C. Mr. William Farrow, surveyor, 20, Park-place, Cardiff.

FEBRUARY 6.—**Watford.**—ROADS.—For construction of new estate roads and sewers, &c., at Wiggenhall, for T.C. Mr. D. Waterhouse, Borough Engineer, Municipal Offices, 14, High-street, Watford. Deposit £2 2s.

FEBRUARY 6.—**Whitchurch (Glam).**—ROAD WIDENING, &C.—For (*a*) road widening and culverting at Beulah Cross Roads, and (*b*) widening of Old Church-road, at Whitchurch, for the Cardiff R.D.C. Separate tenders required. Mr. William Farrow, surveyor, 20, Park-place, Cardiff.

FEBRUARY 7.—**Swansea.**—SEWERS.—For construction of stoneware and cast-iron sewers at Llansamlet, totalling 9,943 lineal yds., for the T.C. Mr. J. R. Heath, Engineer, Main Drainage Dept., Guildhall, Swansea. Deposit £5 5s.

FEBRUARY 9.—**East Lothian.**—EXTENSION OF MAINS. —For construction of pipe lines between Humble Station and Fountain Hall, for the East Lothian Western District Water Board. Water Superintendent, Bank of Scotland Buildings, Haddington. Deposit £2 2s.

FEBRUARY 9.—**Lancashire.**—ROADS.—Construction of a new road and the widening and reconstruction of part of the existing main road between the "Rose and Crown Inn," Much Hoole, and Sollom, for the Lancashire C.C. County Surveyor, County Offices, Preston.

FEBRUARY 11.—**Bedwellty.**—STREET WORKS.—For carrying out for the Bedwellty U.D.C. the following street works: Sewering, levelling, metalling, flagging, channelling and making good (*a*) Pentwyn-street, Blackwood, (*b*) South View-road, Blackwood, (*c*) Pentwyn-avenue, Blackwood. Mr. Dan. H. Price, Surveyor, Council Offices, Aberbargoed.

FEBRUARY 11.—**Coseley.**—SEWERS.—Construction of stoneware and cast-iron sewers, from 6 in. to 24 in. diameter, &c., for the U.D.C. Messrs. Berrington, Son & Watney, Prudential Chambers, Lichfield-street, Wolverhampton. Deposit £5 5s.

FEBRUARY 11.—**Eccles.**—SEWAGE WORKS.—For additions and alterations to the sewage works of the T.C. Mr. Thomas S. Picton, Borough Engineer, Town Hall, Eccles. Deposit £3 3s.

FEBRUARY 11.—**Huddersfield.**—SEWERS.—Construction of 1,388 lineal yards of earthenware pipe and cast-iron pipe sewers, of internal diameters varying from 5 in. to 12 in., in two sections, for the T.C. Borough Engineer, 1, Peel-street, Huddersfield.

✱FEBRUARY 13.—**London, E.C.1.**—REMOVAL OF FURNACE REFUSE, &C.—Removal of furnace refuse, &c., from the various stations in the Metropolitan Water Board's area, for the periods of 6 and 12 months as from April 1, 1924. Chief Engineer, Metropolitan Water Board, New River Head, 173, Rosebery-avenue, E.C.1, by personal application (Room 155), or upon forwarding a stamped addressed brief envelope.

FEBRUARY 16.—**Greenock.**—ROADS, &C.—Construction of streets and sewers in connection with the Cowdenknowes housing scheme, for the T.C. Office of Public Works, Municipal Buildings, Greenock. Deposit £1 1s.

FEBRUARY 16.—**Seisdon.**—SEWAGE WORKS.—Construction of sewerage and sewage disposal works at Codsall, for the R.D.C. Mr. W. Cannan, engineer, Wombourn, Wolverhampton. Deposit £5 5s.

FEBRUARY 18.—**Hertford.**—SEWAGE WORKS.—Construction of activated sludge treatment works for the T.C. Messrs. J. Taylor & Sons, 36, Victoria-street, S.W. Deposit £5.

FEBRUARY 18.—**Wimbledon.**—ROADS.—For the making-up of Laurel-road, Melbury-gardens (Section 1), Melbury-gardens (Section 2), for the B.C. Borough Engineer, Town Hall, Wimbledon.

FEBRUARY 19.—**Batley.**—EMBANKMENT.—For the construction of an embankment, &c., for the formation of a reservoir, with ancillary works, in the Valley of the River Holme, a few miles from Holmfirth, for the T.C. Messrs. G. H. Hill & Sons, civil engineers, 40, Kennedy-street, Manchester. Deposit £5 5s.

MARCH 1.—**Montgomeryshire.**—STORAGE RESERVOIR AND WATER MAINS.—Construction of a small storage reservoir, and the laying of a main in connection with an additional water supply, for the T.C. of Llanidloes. Mr. James Grant, Surveyor, Llanidloes, Montgomeryshire.

NO DATE.—**Leeds.**—ROADS.—For road forming between kerbs, 3,460 super. yds., off Roundhay-road. Messrs. Martin & Fenwick, civil engineers, 26, Park-row, Leeds.

Competitions.

(*See Competition News, page* 138).

Auction Sales, Tenders, etc.

✱FEBRUARY 7.—**London, E.9.**—Mr. F. H. Clark will sell, without reserve, final clearance auction sale of all remaining timber and builders' material resultant of the demolition of the National Projectile Factory, Hackney Marshes, E.9. Auctioneer, Railway Wharf, York-road, Wandsworth, S.W.18.

FEBRUARY 7.—**London, W.1.**—Messrs. Knight, Frank & Rutley, in conjunction with Messrs. Oakden & Co., will sell, by direction of the Eastbourne Waterworks Company, the freehold commercial site of about 4¼ acres, including detached double-fronted residence, factory and warehouse buildings. Auctioneers, 20, Hanover-square, London, W.1.

✱FEBRUARY 12.—**Bloomsbury.**—Messrs. J. W. Coade, Son, & Budgen will sell, by order of the National Council of Y.M.C.A.s, valuable building materials forming the standing structures known as the Shakespeare Hut, Gower-street, Bloomsbury, W.C.1. It will be offered for sale in one lot on the premises. Auctioneers, 118, Southampton-row, W.C.1.

✱FEBRUARY 21.—**Orpington, Kent.**—Messrs. W. Levens & Son, F.A.I., will sell by auction (unless previously disposed of by private treaty), by order of the executrix of the late Mr. H. M. Glassup, Orpington, Kent, on the premises, freehold business premises known as "Mayfield Cottage," High-street, together with the goodwill and stock-in-trade of a sanitary engineer and decorator. Auctioneers, Station-approach, Orpington.

MAY 6.—**London, W.1.**—Messrs. Knight, Frank & Rutley, at the Hanover-square Estate Room, situate at Wimbledon Common, within half-an-hour by motor of the Houses of Parliament. Freehold, Edgecombe Hall, Beaumont-road; extensive range of outbuildings, in all extending to over 14 acres. Vacant possession will be given on completion of the purchase. Auctioneers, 20, Hanover-square, W.1.

Public Appointments.

✱JANUARY 28.—**London, N.W.8.**—Clerk of Works required in connection with the extension of the Nurses' Home and Administrative Block at Park Royal Hospital, Acton-lane, Willesden, for the Guardians of the Parish of Willesden. Mr. J. Hutton Haylor, Clerk to the Guardians, Guardians' Offices, 359, High-road, Brondesbury, N.W.9

JANUARY 28.—**Stoke-on-Trent.** — Competent temporary Assistant Quantity Surveyor required by the County Borough of Stoke-on-Trent. Mr. A. Burton, M.Inst.C.E., F.S.I., Borough Surveyor, Town Hall, Stoke-on-Trent, together with copies of three testimonials.

✱JANUARY 29.—**Carlisle.**—Architectural Assistant required in the City Engineer's Dept. by the Corporation of the City of Carlisle. Only those who have had actual experience of steel buildings should apply. The appointment is a temporary one. Mr. Henry C. Marks, M.Inst.C.E., City Engineer and Surveyor, 18, Fisher-street, Carlisle.

✱FEBRUARY 1. — **London, E.2.** — Architectural Draughtsman required in the Borough Engineer and Surveyor's Dept. on the weekly staff. Duration of appointment about six months, by the Borough Council of Bethnal Green. Mr. A. E. Darby, A.M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Bethnal Green, E.2.

FEBRUARY 1. — **Swansea. — Architectural Draughtsman required in the Borough Architect's Department by the County Borough of Swansea, Borough Architect, Guildhall, Swansea, endorsed "Draughtsman."**

✱NO DATE.—**London.**—Assistant Surveyors are required for temporary service under the Air Ministry (Works and Buildings Directorate) in and outside London. Candidates must be ex-Service men, who have been trained in a quantity surveyor's office, preferably in London. The Secretary (S.1.), Air Ministry, Astral House, Kingsway, W.C.2.

✱NO DATE. — **London, S.W.1.** — Architectural, Draughtsman required for the Government Departments. Candidates should have served in H.M. Forces during the War, be fully capable of preparing working drawings and specifications for general civil engineering or architectural work. Employment will be for varying periods, and must not be regarded as permanent Joint Substitution Board (Treasury and Ministry of Labour), Montagu House, Whitehall, S.W.1

PROPOSED NEW BUILDINGS & OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C for Borough Council; and P.C. for Parish Council.

ADWICK (YORKS).—At the last meeting of the U.D.C. it was stated that an agreement had been reached for the erection of about 1,000 houses by the Industrial Housing Association. The work is to be commenced at once, and the houses are to be divided between the districts of Adwick, Woodlands and Highfields.

ANNFIELD PLAIN.—The U.D.C. have received intimation that the M.H. approve the Council's proposal to afford financial assistance to private enterprise in the erection of 50 houses to the extent of £75 per house likely to be commenced before March 31, and have also sanctioned the borrowing of £3,800 for these grants.

BINGLEY.—The Committee of the Bingley Cottage Hospital have under consideration a scheme for extensions to the present premises, which are inadequate for present-day requirements. Plans are being prepared, and it is hoped to make an early start. Sir James Roberts has made a grant of £3,000 conditionally upon the work being commenced before the end of 1924.

BRADFORD.—The City Architect has been instructed to inspect the Low Moor district with a view to a suitable site being acquired upon which to erect a new elementary school for the district.——Plans have been prepared and tenders are to be invited for the erection of a new spinning shed for Messrs. E. Sykes & Co., Ltd., of Willowfield-street. Mr. W. E. Bickers, of Bradford, is the architect.

BRANCEPETH.—At a special meeting of Brancepeth and Oakenshaw Aged Miners' Homes Association, plans were approved for the building of nine cottages and a reading room for aged single miners, as a war memorial. Messrs. John Plummer and W. Cummings offered their services (which were accepted) as honorary architects for the new cottages.

BRECONSHIRE.—A joint meeting of the Radnorshire and Brecon County Main Roads Committee has agreed that the widening of Builth bridge and improvement of approach roads be proceeded with at an estimated cost of £7,000; the counties to share cost remaining above M.T. grant. The Breconshire Main Roads Committee has resolved upon road resurfacing and improvement works at an estimated cost of £20,000, and, subject to grant being made, will proceed at once with outstanding works, estimated to cost £3,000.

BRIDLINGTON.—Mr. A. E. Goddard, an inspector of the M.H., has held an inquiry into the application of the Corporation to borrow £50,000 for defraying the cost of the acquisition of premises for the extension of the Royal Prince's parade and other improvements. The specific purposes of the application included the construction of suitable means of communication, underground or otherwise, between the Royal Prince's parade and the proposed extension of the parade, and the erection of buildings, shops, and places of entertainment and recreation, refreshment rooms, and places for games, &c.

BRIGHTON.—If the T.C. approves the decision arrived at by the General Purposes Committee, Brighton Aquarium will soon be a thing of the past. The report which the committee has approved proposes the clearance of the site and its conversion into public gardens with a restaurant, café, public hall, and other features. Expert advice is to be obtained to enable the scheme to be carried out.

BRIGHTON.—Plans passed by T.C.: Out-patients' Department, Sussex Throat and Ear Hospital, Church-street, T. Garrett & Son, for the Committee of Management; alterations, 101 and 102, Trafalgar-street, W. H. Overton, for Freeman, Hardy & Willis; stage platform, King's Cliff Cinema, Sudeley-place, W. H. Overton, for W. Easter; two houses, Hollingdean-terrace, W. J. Burstow, for J. Morley; conversion into two maisonnettes, 3, Buckingham-road, W. H. Overton, for Miss Lynn.

CARMARTHENSHIRE.—The County E.C. has moved to compulsorily acquire land on which to erect a new central school at Berry Port. The surveyor to the Llanelly B.C. is to report on possibilities of proceeding with Gwendraeth water scheme and to submit estimates of cost of constructing a third reservoir at Cwm Lliedi. The house of the Deputy Chief Constable of Cardiganshire at Lampeter is to be repaired and altered by the Cardiganshire Standing Joint Committee.

CHARLESWORTH.—The Charlesworth parish, situate in the Glossop-dale R.D.C.'s area, is showing signs of great activity in the building trade. A lay-out plan for 400 houses has been approved, and an immediate start is to be made with 100 of these. When the scheme is further developed the L.N.E.R. propose to erect a new railway station.

CHEADLE.—Plans passed by R.D.C.: House, Cheddleton, for Mr. A. Glibert; house and shop, Weston Coyney, for Mr. A. Williams; two pairs of houses, Cheddleton, for Messrs. Lawton, Leese, Ward & Evans; addition to bungalow, Wetley Moor, for Mr. Mellor; addition to house, Threpwood, for Mr. J. Cornes; two hutment bungalows, Caverswall, for Mr. Lovatt; hutment bungalow, Cheddleton, for Mr. Goldstraw.

CHESTER.—Plans passed by T.C.: Conversion of 11, Stanley-place into flats, for Brown & Co. (Chester), Ltd.

DURHAM.—The Durham County E.C. propose to erect a number of new secondary schools in the county, and the Teesdale District Education Authority is strongly pressing the need for one of the new schools for the Teesdale neighbourhood.

CORNWALL.—The Highways Committee has adopted a roads and bridges improvement scheme which involves an expenditure of over £150,000. The largest items on the schedule are the construction of a new by-pass road at St. Austell, at a cost of £30,000, which it is stated will entirely alter the character of the town and add greatly to the rateable value, and the building of a new bridge and approach works at Trevemper, at a cost of £9,000.

DARLINGTON.—The T.C. have approved the following plans: Mr. A. Chilton, bungalow and shop, Coniscliffe-road; Mr. F. Jackson, house, Linden-avenue; Messrs. Bussey & Armstrong, eight houses, Haughton-road.

DENBY AND CUMBERWORTH.—Plans passed by U.D.C.: Houses for Messrs. John Dransfield (Denby Dale); Charles E. Firth, Denby Dale; Arthur Turton, Upper Denby; and William A. Heap, Denby Dale.

DERBY.—The Housing Committee of the T.C. has decided to invite tenders for a further 128 houses—46 parlour type and 82 non-parlour type.

DROITWICH.—House in Lyttleton-road, for Mr. Everton; 12 houses on the Woodfields site, for the Council; and new chapel and Sunday schools in Tagwell-road.

DRONFIELD.—Plans have been approved by the U.D.C. for a pair of semi-detached villas in Green-lane, for Mr. C. I. Margerison, and a house for Mr. J. H. Platts, in Princess-street.

EAST HAM.—Plans passed by B.C.: Alterations, United Methodist Church, Manor Park, for J. Slater & Keith; extension, rear of Latimer Hall, Boleyn-road, for G. W. Goodall.——The engineering inspector of the M.H. has advised the Council to accept the report of Mr. Kiermen, consulting engineer, on the heating and hot water supply, &c., at the Isolation Hospital.

EDINBURGH.—Plans are being prepared for the erection on a site west of the village of Dean of a large garage and workshop by the Wolseley Motors, Ltd., the proprietors, for Messrs. Vickers. Mr. John Jerdan, F.R.I.B.A., Edinburgh, is the architect. The building will be one of the largest and most up-to-date of its kind in Scotland, the estimated cost being between £60,000 and £70,000.——Warrants granted by Dean of Guild Court: J. Easton, convert self-contained house, 8, Bellevue-crescent, into three separate houses; Thomas Ferguson, seven villas, Colinton-road; London & North Eastern Railway Co., smithy and machine shop, Balleyfield-road, Portobello, and new roof, North Leith passenger station; A. A. Morris & W. B. Wyllie, double villa, Jeffrey-avenue, Blackhall; J. W. Wallace, villa and two cottages, Meadowplace-road, Corstorphine; Office of Works, telephone exchange, Russell-road.

EPSOM.—Plans passed by R.D.C.: Three houses, Ashtead, one in Links-road, for Mr. E. B. Ecalle, one in Harriott's-lane, for Mr. C. J. Barlow; and one in Harriott's-lane, for Mr. R. A. Tait; bungalow, The Park, Great Bookham, for Mr. Meaburn; house, Guildford-road, for Mr. T. M. Proctor; house, The Park, for Mr. H. W. Gardener; bungalow, Fetcham, for Miss C. Finch.

ERPINGHAM.—The R.D.C. has decided to erect six houses at Knapton, six at Northrapps, four at Gimingham, and two each at Trimingham and Runton.

EXMOUTH.—The Southern Railway has decided to put in hand at once the construction of extensive new engine and repair sheds at Exmouth Junction, and has accepted the tender of A. Jackaman & Sons, Ltd., of Slough, for the first section of the work.

FALKIRK.—Plans were passed at the Dean of Guild Court, on the application of Falkirk Iron Co., Ltd., for the erection of a block of four flatted houses, at Bankside, at an estimated cost of £1,800; and warrant was also granted to Stirlingshire and Falkirk Water Board to make alterations on Belmont House, and reconstruct outhouses, estimated to cost £1,800.

FELSTED.—A M.H. inquiry has been held by Mr. T. R. Grigson in regard to an application by the Dunmow R.D.C. for permission to borrow £1,200 for a sewerage scheme and sewage disposal works for the parish of Felsted.

FOLESHILL.—Plans passed by R.D.C.: Three houses, Lythall's-lane, Foleshill, for Mr. A. Day.

GLAMORGAN.—The Mid-Glamorgan Water Board, Bridgend, has notified Maesteg U.D.C. that as soon as plans have been completed a new high level reservoir for supply to Maesteg district will be constructed by the Board. The Maesteg U.D.C. has passed plans for buildings to be erected by Mr. W. T. Lewis on site between the "King Alfred" and "Sawyers Arms." The Council has approved the plans of surveyor for an approach road and entrance to the park, and has sanctioned the demolition of certain unsightly buildings in the vicinity. Plans have been prepared by Mr. J. Simon Davies, the architect to the Penybont R.D.C., on behalf of 40 applicants for grants, under Small Dwellings Acquisition Act, from Council. The applicants intend to build at Heolycyw site. The Pontardawe U.D.C. has decided to carry out Garnsyllt water supply scheme at an estimated cost of £2,325. Details of the projected construction of a main road to connect the heads of all the mining valleys of North and Mid-Glamorgan have now been submitted to the U.D.C.s concerned. The scheme is estimated, tentatively, to cost £366,411, of which one-half has been provisionally promised by M.T. The main connecting road, as planned, will be 17 miles long with six spur roads from main artery into the several valleys of lengths varying from one to four miles. The allocation of costs between the various councils is now being proceeded with. It is hoped that the work will be well advanced by the summer. The approximate costs are as follows:—Main route and three spur roads, £225,000; Blaen Rhondda-Rhigos spur, £51,880; Pont-Neath-Fechan, Banwen, Seven Sisters and Rhos Common spurs, £89,561; total £366,411. The Barry U.D.C. has approached G.W.R. directorate with request that proposed work of constructing new dock be put in hand at once to give partial relief to local unemployment situation. The Penarth U.D.C. has decided to put in hand work of constructing war memorial obelisk, of design by Sir John Goscombe John, and to become responsible for cost, estimated to amount to £2,000.

HALSTEAD.—Plans passed: Eight houses, Factory-lane, for Messrs. Courtaulds, Ltd.

HARTLEPOOL.—The War Memorial Homes and Crosby Homes Committee have decided to erect eight more houses, at an estimated cost of £3,936.

HAZEL GROVE.—Plans passed by U.D.C.: Bungalow, Mill-lane, for Mr. J. Allen; four houses, Tenement-lane, for Mr. W. Stainsby; four houses, Victoria-avenue, for Mr. W. Turner; four houses, Chester-road, for Messrs. C. F. Lloyd, J. Royds, and Messrs. Bancroft & Pixton; four houses, Commercial-road, for Messrs. Bancroft & Pixton; house, Douglas-road, for Mr. H. G. Hall; two houses, Dean-lane, for Mr. G. Griffin; 12 houses, Bramhall Moor-lane, for Messrs. Unsworth & Wilson; two houses, Bean Leach-road, for Messrs. Bowden & Fidler; two houses, Offerton-lane, for Mr. W. Bramwell; new road, Grassmere-crescent, Bramhall, for Sir Thomas Rowbotham and others; new road, St. Michael's-avenue, Bramhall, for Sir Thomas Rowbotham and others; new road, Pownall-avenue, and part of Ladythorn-grove, for Messrs. Brocklehurst.

HESTON AND ISLEWORTH.—Plans passed by U.D.C.: Messrs. Cory Bros. & Co., Ltd. cottage and petrol filling station Bath-road; Mr. J. W. Westlake, for two houses Bristow-road; Messrs. Roper, Son & Chapman, for seven bungalows, Sutton-lane; and five bungalows, St. Mary's-crescent; Mr. T. A. Chapman, bungalow, Harte-road; Mr. J. Chandler, bungalow, New Heston-road; Hounslow Sand and Gravel Co., bungalow, Sutton-lane; Mr. W. J. Harris, bungalow, Station-road; Building Enterprises, Ltd., two houses, New Heston-road; Mr. A. W. Gibson, two cottages, Wellington-road North; Mr. H. Langford Moyle, house, Grove-road; Messrs. P. Chase Gardener & Co., two houses, Staines-road; house, Loring-road; house, Hounslow-gardens; four houses, Spring Grove-road; and house, Thornbury-avenue; Mr. H. B. Phillips, two houses, Hounslow-avenue.

HOLLINGBOURNE.—Plans passed by R.D.C.: Three cottages, Sutton Valence, for Mr. A. J. Ellis; two cottages, Lidsing, for Mr. Pye; bungalow, Broomfield, for Mr. M. E. Read; bungalow, Broomfield, for Mr. P. Collison.

HORBURY.—Plans passed: House off Regent-street, for Mr. T. H. Holland, and an electricity sub-station at Horbury Bridge, for Clement Smith.

HUNSWORTH.—Plans passed by U.D.C.: Bungalow, top of Hunsworth-lane, for Mr. Albert Ingham.

ISLE OF MAN.—In the Tynwald Court £7,000 was voted for the erection of a shelter on the Victoria Pier at the south side.

JARROW.—It is proposed to erect a new R.C. church, the T.C. having decided to sell a portion of their housing land for £2,000.

KEIGHLEY.—Private builders are erecting about 60 houses. Sixteen houses are to be erected in eight pairs in Fell-lane, a new road being constructed in connection with the latter scheme. Plans passed by R.D.C.: Two houses, for Mrs. Harrison, at Barney Castle.

KENILWORTH.—Plans passed by U.D.C.: House, Clinton-lane, for Mr. S. T. Thornett; house, Whitemoor, for Mr. J. W. Golby.

KIRKCUDBRIGHT.—Mr. Hall Blyth, of Edinburgh, has designed a ferro-concrete bridge for the T.C.'s new bridge scheme. The estimated cost is approximately £20,000, of which the M.T. will grant 63 per cent. The bridge will consist of five spans, with a roadway 24 ft. wide from kerb to kerb.

LLANDILO.—The R.D.C. has passed plan for a new memorial, public hall and library. The estimated cost is £10,000, and the architect is Sir Charles Ruthen, Swansea. The work of erecting hall is to be put in hand in February.

LARGS.—It has been remitted to a Committee of the T.C. to consider the question of a town hall.

LETCHWORTH.—The U.D.C. has been informed that the M.H. are prepared to approve a new sewerage scheme for the town, subject to modifications which will increase the cost of the works by £2,445.

LONDON.—The L.C.C. Asylums Committee is recommending that a capital expenditure of £33,000 for the completion of West Park Mental Hospital be approved.

LONDON.—The Mental Hospitals Committee of the Metropolitan Asylums Board proposes the installation of a central forced circulation hot-water supply system in the schools section at Darenth Training Colony, at an estimated cost of £1,950.

LONDON (BERMONDSEY).—The L.C.C. has sanctioned the B.C. borrowing £10,883 for paving works.

LONDON (HACKNEY).—Plans passed by B.C.: Shops and dwellings, High-street, Homerton, for H. J. Ramus; extension of Willey & Co.'s premises, Hertford-road, for J. Jarvis & Sons; two houses, Grove-lane, for J. Garey & Son.

LONDON (PADDINGTON).—Sanction has been given by the L.C.C. to the B.C. borrowing £23,722 for paving works.

LONDON (STOKE NEWINGTON).—The Minister of Health has decided to hold an inquiry into the proposal of the Stoke Newington Council to build new public baths.——Factory, Eade-road, for Stone & Drew.

LONDON (ST. MARYLEBONE).—The Works Committee of the B.C. recommends that for the next financial year tenders be invited from contractors for all new carriage-way reconstruction works on Class 1 and 2 roads.——It is proposed to construct an underground lavatory in Salisbury-street, at a cost of £2,350.

* See also our List of Contracts, Competitions, etc.

LOOE (CORNWALL).—The U.C. authorised the acquisition of the properties in Fore-street necessary in order to carry out a proposed street improvement, plans of which are to be submitted to the M.H. for approval. The offer of Colonel Tremayne to sell the freehold of certain land required for the proposed water extension scheme for £835 was accepted, and the surveyor was instructed to prepare a plan showing the proposed works.

MANSFIELD.—Plans passed by T.C.: A. J. Copestake, conversion of house into business premises, Leeming-street; F. Johnson, extensions to factory, Reed Mill, Bleakhills-lane; Intake Freehold Land Society, three new streets; H. Baggaley, four houses, Bottle-lane; —. Griffiths, house, Nottingham-road; H. Booker, two houses, Southwell-road; E. M. Webster, four houses, Sandy-lane and Gladstone-street; H. James, house, Atkin-lane; H. James, house, Bottle-lane.

MERTHYR TYDFIL.—The T.C. is shortly to call for tenders for erection of 100 concrete houses at Treharris and 50 concrete houses at Gellifaelog. The houses will be erected on one of the following systems, "Duoslab," "Hollocrete," or "Tidier." The Council will later decide upon a Housing Committee recommendation that 80 houses be erected in brickwork, 30 at Aberfan and 50 at Pant, in addition to concrete houses definitely decided upon.

MIDDLESBROUGH.—At a meeting of the Public Library and Museum Committee it was stated that in the near future three branch libraries would be necessary, and a sub-committee was instructed to consider a scheme for the provision of a branch library at North Ormsby. It is proposed to carry out extensions to the West-lane Hospital.

MIRFIELD.—Plans passed: Electricity sub-station at Newgate, for the Yorkshire Electric Power Co., Ltd., and dwelling house and shop at Nettleton-road, for Mr. Schofield.

MONMOUTHSHIRE.—The Mynyddislwyn U.D.C. has passed plans submitted by the Tredegar Iron & Coal Co., Ltd., for an accommodation road to be constructed by the company near its new Wylie Colliery. The County Main Roads Committee has decided to widen the main road between Factory Trip and "Swan Inn," Abercarn, at an estimated cost of £10,000, subject to fifty per cent. grant being received from Ministry of Transport. The committee has also resolved on widening the Usk-Pontypool-Crumlin road, at an estimated cost of £5,100. The County Surveyor has received instruction to plan a new road commencing in line with River bridge, Caerleon, and ending near the Drill Hall, on the Common. The C.C. has decided to spend £250 on provision of better laboratory accommodation at County Hall. The Abercarn U.D.C. having received £850 grant from the Newport-Abercarn Coal Co., toward cost of repair of Alcenyn-road, will now put work in hand. It is estimated to cost £1,750. The Usk U.D.C. has passed plans for houses which Messrs. Sweet & Sons propose to erect in Abergavenny-road.

NEWCASTLE.—A strong effort is to be made by the Corporation Housing Committee to complete the Walker Estate, and in furtherance of this project the housing architect has been instructed to prepare plans for the two remaining sections, with provision for about 150 houses.——An immediate commencement is to be made upon a scheme for the development of the Woodlands Park Estate, near Gosforth Park, Newcastle, for building purposes, where it is proposed to lay out 30 acres of land, and to erect bungalows of the semi-detached type, 12 to the acre. Plots of land will adjoin each house, and purchasers will be asked to incorporate their own ideas in the construction of the houses, which will be of six and seven rooms each. The architects for the scheme are Messrs. Marshall & Tweedy, of 54, Grey-street, Newcastle, who are at present laying out a site on the opposite side of the main road, at the same spot, several houses having already been completed.

NEWPORT (MON.).—The Poldi Steel Co. (England), Ltd., is in communication with the Newport Development Association for the acquisition of site near River Usk, on which the company proposes, tentatively, to erect new works. The site has been inspected and reported on by the company's representatives. A permanent stone church is to be erected to replace the old iron structure at St. Julian's, Newport. The "King's Head Hotel" has been purchased by Messrs. Griffiths & Sons, clothiers, for the purpose, it is reported, of conversion to shop premises. The B.C. has approved design of architect, Mr. Basil Mott, London, for new Usk bridge to be erected at an estimated cost of £165,000, of which 65 per cent. is promised by M.T. It was stated at a meeting of the Council that preliminaries to putting work in hand are well advanced. The Council now contemplate construction of an additional 40 ft. wide approach road at western end of bridge.

PEMBROKESHIRE.—The Goodwick U.D.C. has been informed that scheme for erection of houses by G.W.R. workmen has advanced to extent of purchase of site. The Pembrokeshire Territorial Association is to invite tenders for alterations necessary at Bush Camp, Pembroke Dock. The Standing Joint Committee will alter and repair police buildings at Milford Haven at an estimated cost of £300. The C.C. is negotiating with view to adaptation of one of the disused forts as a smallpox and isolation hospital. The Main Roads Committee will shortly invite tenders for considerable tar surfacing of main roads. The repair and widening of St. Clears-Narberth and Narberth-Cardigan roads is to be undertaken at an estimated cost of £20,470 in so far as they lie in the Whitland and Norbeth Councils' areas, the estimated cost of the Cardigan road improvement in the area of the St. Dogmael's Council is £30,000. When work has been completed the C.C. is to take the road over. The Whitland U.D.C. is advised by its surveyor to ask for tenders for supply of road materials sufficient for the year.

PLYMOUTH.—An important improvement scheme which embraces the widening of Coburg-street, an important thoroughfare, the re-erection of the education offices and the building of a clinic, costing in all over £60,000, has been decided upon by the Corporation.

POULTON.—Plans passed by U.D.C.: Mr. R. E. Porter, Four Lane-ends, Carleton, detached houses, Blackpool-Garstang-road; Mr. Gerland Emery, Chapel-street, detached houses, Lower Green; Mr. E. Armitage, Sheaf-street; Mr. H. B. Bryan, Hardhorn-road, four semi-detached houses, Blackpool-Garstang-road.

RICHMOND (SURREY).—Plans passed by T.C.: Mr. B. J. Mitchell, six houses, 2–12, Defoe-avenue; Mr. E. J. Partridge, alterations and additions, 45–49, The Quadrant.

RICHMOND.—A proposal is on foot to erect a new cinema, skating rink, and "palais de danse" at Richmond (Yorks), at a total cost of about £10,000. The venture has been initiated by Mr. T. Pinder, and plans have already been prepared by Messrs. Wetherell & Son, architects. The building will be 110 ft. by 50 ft., and will provide seating capacity for 800 people, and it will be situated in Station-road. It is hoped that the building will be completed by September.

SEDGEFIELD.—The R.D.C. have approved of the following plans: Four houses in Church-lane, Ferryhill, for Mr. W. Dunn; 24 houses at Chilton, for the Chilton Building Estate; and the conversion of the old schools at Sedgefield into cottages, for the Sedgefield Education Foundation.

SOUTH CROSLAND.—Plans passed by U.D.C.: Eight cottages, Banksfoot-lane, for Mr. T. Brooke.

STAFFORD.—Plans passed by R.D.C.: House, Billington House Farm, Bradley, for T. Williams; two bungalows, White Cross, Haughton, for Mr. R. Fowell.

STANSTEAD.—Plans passed by R.D.C.: Cottage, for Mr. A. E. Watson, Stansted; bungalow, Henham, for Mr. Collett; pair of cottages, Stansted, for Mr. W. R. Brown.

STOCKTON-ON-TEES.—Plans passed by T.C.: Bungalows, Darlington-lane, for A. E. Snowdon and C. Bradley.

SWANAGE.—Plans passed by U.D.C.: Flat, &c., Station-road, for G. Edgar; shop and stores, Station-road, for H. & F. Smith.

TAMWORTH.—Mr. R. C. Cox, an inspector of the M.H., has held an inquiry in relation to the application of the T.C. and R.D.C. to borrow £4,200 and £8,800 respectively, for works of water supply.

THAXTED.—A M.H. inquiry has been held by Mr. T. R. Grigson in regard to an application from the Dunmow R.D.C. for sanction to a loan of £6,800 for a sewage scheme and disposal works for Thaxted and of £4,400 for a new water supply.

THORNABY.—The Corporation have decided to proceed with a scheme for the erection of 100 houses, 50 of which will be built by the authority, and 50 by private enterprise.

THURNSCOE.—The U.D.C. are having 600 houses erected, and are also considering the question of enlarging their sewerage and sewage disposal works. W. H. Radford & Son, Nottingham, have been asked to report on the matter.

WALLSEND.—The T.C. have resolved to erect an additional 36 houses by direct labour.

WILLESDEN.—Plans passed by U.D.C.: Five houses, 38, 40, 42, 44, 46, Holland-road, Harlesden, and two garages, by Messrs. Done, Hunter & Co., for Mr. R. Curner; four houses with garages, 96, 98, 100, 102, Chatsworth-road, Cricklewood, for Mr. C. W. B. Simmonds; 11 houses and six garages on the west side of Heber-road, Cricklewood, by Mr. George Coles, for Mr. M. Cohen.

WINLATON.—Terms have been arranged for the purchase, by the Blaydon U.D.C., of the Bleach Green Estate, Winlaton. Within the next twelve months it is hoped that the authority will be able to erect at least 600 houses in all, 400 being in the Blaydon and Winlaton district, 100 at Chopwell, and the remainder being spread over the rest of the district. Sanction was given at the meeting for the carrying out of a sewage scheme at Park Head.

FIRES.

FALKIRK.—Much damage has been done by a fire which occurred in the administrative block of the Stirling Eastern District Committee's infectious diseases hospital at Camelon.

TRADE NEWS.

We have received from Messrs. Wm. T. Nicholls a small booklet illustrating a number of their artistic wood mantels.

Messrs. J. Starkie Gardner, Ltd., metal workers, has been registered as a private company. Premises have been secured at Merivale-road, Putney.

We are informed by Vigilant Sprinklers, Ltd., of Stuart House, 1, Tudor-street, E.C.4, that their automatic sprinkler system has been installed at the new preimses, 45–47, Gresham-street, and 22, Wood-street, E.C., illustrated in our last week's issue. Vigilant automatic sprinklers have also been installed at the new "Fortune" Theatre, Russell-street, W.C. The firm have also supplied the sprinkler protection for the stage, dressing-rooms, &c., as also the system of drenchers for the fireproof curtain, as well as the complete system of fire hydrants for the protection of the front of the house.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.
* Denotes *accepted.* † Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

ABERDOVERY.—For erection of house, for Mr. C. A. Arthur. Mr. F. Howarth, architect and surveyor, Towyn:—
*J. P. Lewis & Griffiths..... £1,040

ALDERSHOT.—For demolition of building and erection of shop, Union-street, for Mr. H. Uglow. Messrs. Friend & Lloyd, architects, Aldershot:—
Mardon & Ball, Farnham, Surrey .. £2,975
Goddard & Sons, Farnham 2,950
J. Harvey, Farnborough 2,900
Caesar Bros., Aldershot 2,899
Kemp, Stroud & Co., Aldershot 2,739
F. C. Bath, Camberley 2,748
*Poole & Sons, Fleet..... 2,677

BARNSLEY.—For conversion of 84 privies into w.c.'s, at Klondyke, for the T.C. Borough Engineer, Fairfield House Offices, Barnsley:—
*E. R. Fletcher & Sons, Barnsley £1,047 5 3

BIRMINGHAM.—For steelwork at new stores, for Messrs. Lewis. Messrs. G. de C. Fraser & Ainley, architects and surveyors, 27, Dale-street, Liverpool:—
Robinson & Kershaw £27,500
Bannister Walton 26,750
Redpath Brown 26,260
Keay 25,883
McIntyre 25,092
Dorman Long 24,360
Ed. Wood..... 23,100
Braithwaite 22,950
*Parkes 21,990

BOURNE.—For erection of 4 houses, for the R.D.C.:—
*Messrs. Harwood & Son, Bourne.... £1,524

BRIERLEY HILL.—For erection of 20 houses, together with roads and sewers, on Mill-street Estate. Mr. J. Yorke, Surveyor, Town Hall, Brierley Hill, Staffs:—
*Cartwright, Jordan & Underwood, Brierley Hill—
8 Type "A1"..... £2,720
12 Type "A2"..... 3,960
Streets and sewers 800
Total 7,480

BRIGHTON.—For carrying out repairs, &c., to fence on King's-road, for the T.C.:—
Adams Bros; £485 0
Edward Hotton 475 0
*W. Saunders & Son, Kemp Town, Brighton 445 15

CANNOCK.—For the erection of 50 houses at Huntington, for the R.D.C.:—
*Lea & Siddalls, Hednesford .. £720 per pair

CHEADLE.—For sewage disposal scheme at Cheddleton, for the R.D.C.:—
*Taylor & Sons, Basford..... £632

CHESTER.—For street works, for the T.C.:—
*Penmaenmawr & Lake Trinidad Asphalte Co., Ltd., reconstruction of Delamere-street, City Walls-road, Stocks-lane £5,434 18
*W. Turner (Ardwick), Ltd., Manchester, for the reconstruction and sett paving of Canal-street..... 1,326 0

CHESTER.—For supplying grates, &c., and sanitary fittings required for the houses being erected upon the Heath-lane site, for the T.C.:—
Grates, &c.—
*J. E. Brassey & Son, Ltd., Chester £560 4 8
Sanitary fittings—
*Richard Costain & Sons, Ltd., Blundellsands 720 18 3

CHRISTCHURCH.—For additional lavatory accommodation at Institution, for the Board of Guardians:—
*W. F. Drew, Chalford..... £740

CHRISTCHURCH.—For additions to women's quarters at Institution, for the Board of Guardians:—
*W. F. Drew £1,390

CLECKHEATON.—Erection of 68 houses, for the Spenborough U.D.C.:—
Masons' work—
*James Horkin, Liversedge, 28 houses.
*Robinson & Crowther, Cleckheaton, 20 houses.
*Allan Drake & Son, Cleckheaton, 20 houses.

CLECKHEATON.—For asphalters' work in connection with new extensions at Messrs. Anderton's Victoria Mills:—
*Messrs. Tunstall's Seyssel and Limmer Rock Asphalte Co., Ltd., Leeds.

DOVER.—For erection of garage:—
Edwards Construction Co., Ltd., Eltham £8,917
E. W. Martin, Ramsgate 8,590
C. J. Epps, Ashford 8,540
G. E. Wallis & Sons, Ltd., Maidstone 8,496
T. T. Denne, Walmer 8,420
Cox Bros., Maidstone 8,416
G. H. Denne & Son, Deal 8,400
Rice & Son, Margate 8,396
J. G. Parsons & Son, Folkestone 8,095
G. Lewis & Sons (Dover), Ltd., Dover 8,085
Hayward & Paramor, Dover 7,994
R. J. Barwick, Dover 7,950
G. Browning, Canterbury 7,900
W. H. Grigg, Dover 7,375

(*Continued on* p. 167.)

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	3 19 0
Second Hard Stocks	3 14 0

Per 1,000. Delivered at London Goods Stations.

	£ s. d.
Flettons, at King's Cross	2 13 3
Do. grooved for plaster	2 15 3
Do. Bullnose	2 8 3
Best Stourbridge Fire brick :— 2½ in.	10 3 0
GLAZED BRICKS— Best White Ivory, and Salt Glazed Stretchers	22 0 0
Headers	21 10 0
Quoins. Bull-nose and 4½ in. Flats	28 10 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	£ s. d.
Best Blue Pressed Staffs.	9 0 0
Do. Bullnose	9 10 0
Blue Wire Cuts	7 0 0
3 in.	13 2 0
D'ble Str'tch'rs	30 10 0
D'ble Headers	27 10 0
One Side and two Ends	31 10 0
Two Sides and one End	32 10 0
Splays and Squints	30 0 0

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	2 7	3 in. per yd. super	2 11
2½ in. "	2 6	4 in. "	3 6

	s. d.	
Thames Ballast	10 6	per yard.
Pit Sand	14 9	" "
Thames Sand	15 6	" "
Best Washed Sand	15 6	" "
½ in. Shingle for Ferro-Concrete	14 0	" "
¼ in. "	15 0	" "
½ in. Broken Brick	10 6	" "
Pan Breeze	5 6	" "

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement, British Standard Specification Test £2 18 0 to	£3 3 6
51/- alongside at Vauxhall in 80-ton lots.	
Ferrocrete per ton extra on above	0 10 0
Super Cement	4 8 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Sirapite, Coarse	3 9 6
" Finish	3 17 6
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	2 13 6
Hair	17 0 0
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months, carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 11½
PORTLAND STONE— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4
Do. do. delivered on road wagons at above stations, per ft. cube	4 5

White basebed, 3d. per ft. cube extra.

NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ¼d. beyond 30 ft.

HOPTON-WOOD STONE.

Delivered at any Goods Station, London.

Small random blocks, up to 10 ft. cube. Per ft. cube	7/-
Random blocks from 10 ft. and over "	17/-
Sawn two sides "	27/-
Sawn three or four sides "	32/-

YORK STONE, BLUE—*Robin Hood Quality.*

Delivered at any Goods Station London.	s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) Per Ft. Super	5 3
6 in. rubbed two sides, ditto "	5 9
3 in. sawn two sides slabs (random sizes) "	2 1½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 5½
1½ in. to 2 in. ditto, ditto "	1 3

HARD YORK—

Delivered at any Goods Station London.

Scappled random blocks. Per Ft. Cube	5 6
6 in. sawn two sides landing to sizes (under 40 ft. super.) Per Ft. Super	5 4½
6 in. rubbed two sides ditto "	6 0½
4 in. sawn two slabs (random sizes) "	2 10
3 in. ditto, ditto "	2 5
2 in. self-faced random flags. Per Yard Super	7 11

ARTIFICIAL STONE.

Delivered in London Area in full van loads.	s. d.
Plain per ft. cube	6 6
Moulded " "	7 9
Cills " "	8 3

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£34 0	3 × 6	£25 0
4 × 9	24 0	3 × 11	34 0
4 × 8	29 0	2 × 11	34 0
4 × 7	28 0	3 × 9	33 0
3 × 8	26 10	2½ × 9	33 0
3 × 7	26 0	3 × 4½	24 0
2½ × 7	26 0	3 × 4	24 0

WOOD (*Continued*).

PLANED BOARDS.

1 × 11	£38 10
1 × 9	£36 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	21/-	1¼	33/6
¾	23/-	1½	38/6
1	26/6		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.
1	26/6
1¼	33/6
1½	38/6

MATCHINGS (BEST).

Inches	per sq.
¾	17/6
¾	22/-
1	26/-

BATTENS

Inches	s. d.
¾ × 2	2 4 per 100 ft.

SAWN LATHS.

Per bundle		0	2 10
Dry Wainscot Oak, per ft. super, as inch	0 2 0 to	0	2 6
¾ in. do.	0 1 6 to	0	2 0
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 1 9 to	0	2 6
Cuba Mahogany	0 3 0 to	0	3 6
Teak (Rangoon, Moulmein or Java), per load	45 0 0 to	50	0 0
American Whitewood planks, per ft. cube	0 14 0 to	0	16 0
Best Scotch Glue, per cwt.	4 10 0 to	—	
Liquid Glue, per cwt.	4 7 0 to	5	10 0

SLATES.

1st quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 7 6
Ditto hand made ditto	5 12 6
Ornamental ditto	5 17 6
Hip and valley tiles (per dozen) { Hand made	0 9 6
Machine made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	13 10 0
Plain Compound Girders	15 10 0
" Stanchions	17 10 0
In Roof Work	20 10 0

MILD STEEL ROUNDS.

To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	16 10 0	⅝ in. to ½ in.	13 10 0
¾ in.	14 10 0	¾ in. to 2½ in.	13 0 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Gas	52½%	52½%	62½%
Water	47½%	47½%	57½%
Steam	42½%	42½%	52½%
Galv'd— Gas	37½%	42½%	52½%
Water	31½%	37½%	47½%
Steam	25 %	32½%	42½%

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/1½	11d.	3½d.
3½ in.	1/2½	1/0½	3½d.
4 in.	1/4	1/1½	3½d.
4½ in.	1/5½	1/4	4d.
5 in.	1/7½	1/5½	5d.

O.G. GUTTERS.

3 in.	1/6½	1/2½	3½d.
3½ in.	1/6½	1/2½	3½d.
4 in.	1/7½	1/4	3½d.
4½ in.	1/9½	1/6½	4d.
5 in.	2/1½	1/9	5d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/7½	1/1½	1/8
2½ in. "	1/9½	1/4	2/0½
3 in. "	2/1½	1/8	2/5½
3½ in. "	2/6½	1/11½	2/10½
4 in. "	2/11½	2/4½	3/5½

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6fts plain	3 0½	2 2½	2 8
2½ in. "	3 6½	2 5½	3 3½
3 in. "	4 2½	2 8	4 0½
3½ in. "	4 7	3 3½	4 8½
4 in. "	5 1	3 9½	5 5

L.C.C. COATED DRAIN PIPES—London Prices ex works.

	Pipe.	Bends, stock angles.	Branches stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9ft. lengths	4 9	5 8	8 10
4 in. " "	6 3	6 8	11 4
5 in. " "	7 6	11 6	18 2
6 in. " "	8 10	14 4	23 5

Per ton in London.

	£ s. d.		£ s. d.
IRON— Common Bars	13 10 0	to	14 10 0
Staffordshire Crown Bars—good merchant quality	14 0 0	..	15 0 0
Staffordshire "Marked Bars"	17 0 0	..	18 0 0
Mild Steel Bars	12 10 0	..	13 10 0

METALS (*Continued*).

	£ s. d.		£ s. d.
Steel Bars, Ferro-Concrete quality, basis price	13 0 0	..	14 0 0
Hoop iron, basis price	16 10 0	..	17 10 0
" Galvanised	31 0 0	..	32 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	15 0 0	..	16 0 0
" " " 24 g.	16 0 0	..	17 0 0
" " " 26 g.	18 0 0	..	19 0 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	21 10 0	..	22 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	22 10 0	..	23 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	24 10 0	..	26 10 0
Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9 ft. to 20 g.	21 10 0	..	22 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	22 0 0	..	23 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	24 0 0	..	25 0 0
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	23 10 0	..	24 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 10 0	..	26 10 0
Best Soft Steel Sheets, 26 g.	26 0 0	..	27 0 0
Cut Nails, 3in. to 6 in. (under 3in. usual trade extras.)	20 10 0	..	22 0 0

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/4 to 1/7 per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	42 10 0
Pipe in coils	43 0 0
Soil Pipe	46 0 0
Compo pipe	48 10 0

NOTE—Country delivery, 30s. per ton extra; lots under 3 cwt., 2s. per cwt. extra and over 3cwt. and under 5 cwt., 1s.6d. per cwt. extra. Cut to sizes, 2s. cwt.extra.

Old lead, ex London area, at Mills per ton	27 0 0 ..	—
Do., ex country, carriage forward per ton	28 0 0 ..	—

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2in.
7/6	11/6	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- "

COPPER—	£ s. d.
Strong Sheet per lb.	0 2 3 .. —
Thin " "	0 2 4 .. —
Copper nails "	0 2 3 .. —
Copper wire "	0 2 4 .. —
TIN—English Ingots "	0 2 6 .. —
SOLDER—Plumbers' "	0 1 1 .. —
Tinmen's "	0 1 3 .. —
Blowpipe "	0 1 5 .. —

PAINTS, &c.

	£ s. d
Raw Linseed Oil, in pipes per gallon	0 3 10
" " " in barrels "	0 4 0
" " " in drums "	0 4 3
Boiled " " in barrels "	0 4 4
" " " in drums "	0 4 8
Turpentine in barrels "	0 6 8
" in drums (10 gall.) "	0 6 11
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)	57 0 0

GENUINE WHITE LEAD PAINT—

"Father Thames," "Nine Elms" "Park," "Supremus," "St. Paul's," "Spedol" and other best brands (in 14 lb. tins) not less than 5 cwt lots per ton delivered 81 0 0

Red Lead, Dry (packages extra) per ton	43 0 0
Best Linseed Oil Putty per cwt.	0 16 0
Filocoi per cwt.	0 15 6
Size. XD Quality per fkn.	0 8 6

[Concluded on next page.]

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths....	3½d.	32 oz. fourths	8½d.
15 „ thirds	4½d.	32 „ thirds	10½d.
21 „ fourths ..	5d.	Obscured Sheet, 15 oz.	4d.
21 „ thirds	6½d.	„ „ 21 „	5½d.
26 „ fourths ..	6d.	Fluted 15oz. 6½d., 21oz.	9½d.
26 „ thirds	7½d.	En'lled 15oz. 5½d., 21oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK.

SIZES.	Per Ft
⅛ Rolled plate	4½d.
3/16 Rough rolled	5½d.
¼ Rough rolled	5½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per gallon £ s. d.
Oak Varnish	Outside	0 14 0
Fine ditto	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Copal Carriage	ditto	1 4 0
Best Ditto	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 2 0
Best ditto	ditto	1 12 0
Best Japan Gold Size		0 12 0
Best Black Japan		0 12 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 9 0
Berlin Black		0 14 0
Knotting (patent)		1 5 6
French and Brush Polish		0 17 0
Liquid Dryers in Terebine		0 9 0
Cuirass Black Enamel		0 7 0

JANUARY 18.—**Burntisland.**—HOUSES.—Plumber and gasfitter works of five blocks of houses (10 houses in all) to be erected on Haugh site. Mr. J. A. Waddell, Burgh Surveyor, Burntisland. Mr. G. C. Campbell, architect, Methil. Messrs. Peter Lawrence & Co., surveyors, 50A, Frederick-street, Edinburgh.

THE SCOTTISH BUILDER

Highland Road Reconstruction.

A reconstruction scheme was recently brought forward by the Upper Banffshire District Committee of Banff County Council for opening up communication in the upper part of Aberdeen, Banff and Moray.

If the proposal is given effect one of the most famous roads in the Highlands, known as "The Lecht"—driven through the mountain by General Wade in 1754—will cease to be the trouble it now is to motorists. "The Lecht," which stretches between Tomintoul in Banffshire and Cockbridge in Aberdeenshire, connects the valleys of the Spey, the Don, and the Dee. It is dangerously narrow, and contains gradients of 1 in 5. The Board approved of the proposals, and decided to apply for a Government grant.

Tidying-Up Scotland.

The directors of the Edinburgh Chamber of Commerce recently held their usual monthly meeting. Sir James H. Warrack, K.B.E., presided.

The President said that the Smoke Abatement (Scotland) Bill, introduced by Viscount Novar on behalf of the Scottish Board of Health, amended several existing Acts and extended their powers. It proposed substantially to increase the penalties which might be imposed on manufacturers responsible for the emission of black smoke. Section (1) rendered any person who allowed smoke to issue from any furnace or fire (except a household fire) liable to a penalty of from £5 to £50 unless he could prove that he had adopted the best practicable means for preventing smoke, having regard to the cost. Section (3) gave the Scottish Board of Health power to make orders extending the provisions of the Alkali, &c., Works Regulation Act, 1906, to any noxious or offensive gas, and extending the list of works mentioned in that Act. Section (4) gave powers to town councils and local authorities to make by-laws requiring new buildings, other than private houses, to make arrangements for heating calculated to prevent or reduce the emission of smoke. The Bill also extended the penalties for smoke emission to steamships, although it was exceedingly difficult for steamships entering or leaving harbour to avoid the emission of black smoke.

On December 27 a deputation representative of the coal-mining, shale, steel, and iron industries, including representatives from the Glasgow and Edinburgh Chambers of Commerce, met the Scottish Board of Health, and discussed the clauses of the Bill. The deputation asked for certain amendments, which the Board promised to consider. The future would show, therefore, whether the Bill would be so amended as to remove the anxieties of manufacturers.

It was agreed to remit the subject to the Parliamentary Bills Committee, with powers to take such steps as might be necessary in the interests of industries in Edinburgh which might be unduly hampered by the extended proposals of the new Bill.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Brick layers.	Carpenters. Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Brick-layers' Labourers.	Plasterers' Labourers.
Aberdeen	1/7	1/8	1/7	1/8	1/7	1/7	1/4½	1/-	
Airdrie	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Alexandria	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2	
Arbroath	1/7	1/6	1/6	1/7	1/6	1/6	1/5	1/1	
Ayr	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Bathgate	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/1 to 1/2	
Blairgowrie	1/7	—	1/7	1/7	1/7	1/7	1/6½	—	
Bo'ness	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2	
Coatbridge	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Dumbarton	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2	
Dumfries	1/5	1/5	1/5	1/6	1/5	1/6	1/5	1/1 to 1/2	
Dundee	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Dunfermline	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Edinburgh	1/7	1/7	1/7	1/8	1/8	1/7	1/6½	1/2½	
Falkirk	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Fort William	1/7	1/6	1/6	1/7	1/6	1/6	1/6½	1/1½	
Galashiels	1/5	1/5	1/5	1/6	1/5	1/5	1/5½	1/1	
Glasgow	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Greenock	1/7	1/7	1/7	1/8	1/7	1/7	1/5½	1/1 to 1/2½	
Hamilton	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Hawick	1/5	1/5	1/5	1/6	1/5	1/5	1/5½	1/1½	
Helensburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Inverness	1/3½	—	1/3	1/4	1/4½	1/4	1/3½	10d. to 1/2	
Kilmarnock	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Kirkcaldy	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Kirkwall	1/7	1/5	1/3	1/4	1/4	1/4	1/4	1/-	
Lanark	1/7	1/7	1/7	1/8	1/7	1/7	1/5½	1/2½	
Leith	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Motherwell	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Perth	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Stirling	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Stirlingshire (Eastern District)	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	
Wishaw	1/7	1/7	1/7	1/8	1/7	1/7	1/6½	1/2½	

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 197.

NEW BUILDINGS IN SCOTLAND.

Kilsyth.—HALL.—Efforts are being made in order to provide a new recreation hall for the congregation of St. Patrick's Roman Catholic Church.

Johnstone.—CLUB HOUSE.—The Dean of Guild Court have passed plans for a bowling club house in Brewery-street, for Finlayson, Bousfield & Co.; a house in Quarrelton-road, for Mr. P. Jaffrey; and a house in Thomson-street, for Mr. J. Jack.—The T.C. has decided to purchase vacant land in MacDowall-street and a portion of land between Cartside Cottage, in Laighcartside-street and Fyfe-place, in Rassell-street, for a new housing scheme.

Ayr.—VARIOUS.—The following plans have been passed:—W. C. Gray & Sons, Newton Carpet Works, buildings in McCall's-avenue; W. G. Walker & Sons, Hawkhill Chemical Works, workshops in Somerset-road; Mr. F. H. McPherson, a double cottage in St. Leonard's-road; and Mr. H. Findlay, New-road, Ayr, house in Craigie-road.

Aberdeen.—VILLAS.—The Aberdeen District Board of Control has agreed to the erection of additional villas at the Kingseat Asylum, and the extension of the nurses' home, at an estimated cost of £43,000.

Hawick.—POST OFFICE.—The T.C. has decided to petition the Postmaster-General to establish a fully equipped branch post office for the west end of the town.

Campbeltown.—CHURCH.—The sum of £1,010 has been raised for renovating the interior of Highland Parish Church.

Helensburgh.—SITE.—A site at the corner of West Clyde-street and the east side of Colquhoun-street has been purchased by the National Bank of Scotland.

Glasgow.—PAVILION.—The T.C. has decided to erect two small pavilions at the tramway employees' recreation ground at Parkhead, at a cost of £3,500.

Callander.—ALTERATIONS.—The West Perthshire Licensing Court has passed plans for alterations to the Dreadnought Hotel, Callander.

Portree.—HOUSES.—The Skye District Committee of the Invernesshire C.C. has issued instructions to the architect to prepare plans for building two houses at Portree and two at Kyleakin.

Bridge Contracts.

Messrs. John Butler & Co., Ltd., of the Stanningley Ironworks, Leeds, have been awarded bridge contracts for the Manchester, Salford and Preston Corporations, and for fourteen 60 ft. spans to form three new bridges required by the Indian State Railways.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	6
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	35	0
Add if in underpinning in short lengths	" "	7	6
Add if in floors 6 in. thick	" "	3	6
Add if in beams	" "	4	0
Add if aggregate 1 : 2: 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	3	3

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	2	0	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	1
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	9	0
¾ inch on flats in two thicknesses	" "	6	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	3

MASON.

York stone templates fixed	per foot cube	12	6
York stone sills fixed	" "	21	6
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	19	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	3
Do. joists	" "	5	9
Do. roofs, floors and partitions	" "	6	3
Do. trusses	" "	8	3

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	38/-	44/-	50/-	80/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	4
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

		1¼"	1¾"	2"
Two-panel square framed	per ft sup	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup	1/8	1/9	2/0
Deal shelves and bearers	"	1/5	1/7	1/10
Add if cross tongued	"	2d.	2d	2d.

STAIRCASES.

		1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets		2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed		1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	17	0
Plain compound girders	"	20	0
Do. stanchions	"	23	0
In roof work	"	28	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt	54	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft run.	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	11d.	1/8	1/11	3/5	4/2	
Do. service	"	1/7	2/1	2/6	3/10		
Do. soil	"						
Bends in lead pipe	each						6/10
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/3	8/2
Red lead joints	"	11d.	1/-	1/3	1/11	3/6	
Wiped soldered joints	"	2/10	3/6	4/-	4/11	2/4	4/10
Lead traps and cleaning screws	"				14/7	6/6	9/9
Bib cocks and joints	"	6/4	9/7	15/4	41/-	19/6	
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	3
Do. Do. Sirapite	" "	2	6
Do. Do. Keen's	" "	3	6
Add sawn lathing	" "	1	5
Add metal lathing	" "	2	3
Portland cement screed	" "	1	10
Do. plain face	" "	3	0
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	9
26 oz. Do.	" "	1	1
Obscured sheet	" "	1	3
¼ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	11
¼ in. wired cast plate	" "	1	5

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS—*(Continued from page 163.)*

FIFE.—For (1) Reservoir improvements, &c., for the St. Andrew's District Committee of the Fife C.C.; (2) rainwater covered storage tank, for Fife and Kinross Joint Sanatorium Board. Messrs. Bruce & Proudfoot, engineers, 63, Nicol-street, Kirkcaldy :—

*(1) John Miller & Co., Inverkeithing	£1,786 3 0
*(2) James Ramsay, Leslie	1,237 19 1

HARROGATE.—Erection of a private residence in Wensley-road, for Mr. W. H. Porter. :—

*John Ferguson & Sons, Ltd., Leeds.

HIGH WYCOMBE.—For the erection of 20 houses at Terriers, for the T.C. :—

*G. H. Gibson & Son £8,026

HIGH WYCOMBE.—For street works in Tower-street, for the T.C. :—

*W. E. Lee £398 16

HULL.—For 4,000 tons of cast-iron water pipes, for the T.C. :—

*Staveley Iron Co. £35,000

HUNSWORTH.—For kerbing and channelling in Bradford-road, Birkenshaw End, for the U.D.C. :—

*R. Naylor & Sons, Girlington, near Bradford £1,000

KEIGHLEY.—For erection of overhead transmission line from Marley, extending to Bingley Gas Works, including 36 ft. poles and working pressure of 40,000 volts, for Electricity Department of the T.C. :—

*The Skipton & District Private Telephone & Electric Co., Ltd. £1,307

KEIGHLEY.—For erection of 30 scullery-type houses on Broomhill Estate, for the T.C. :—

Mason's work—
*E. Turner, Ltd., 13 blocks of 2 houses, at £490 per block, extra for wall facings, at £39 2s. per block.

Joiners' work—
*William Dewhirst, 4 blocks of 2 houses, at £236 per block.

Joiners' work—
*Ineson Taylor, 9 blocks of 2 houses, at £236 4s. 9d. per block.

Plasterers' work—
*George Holmes, 13 blocks of 2 houses, at £113 8s. 4d. per block.

Slaters' work—
*W. H. & E. Walton, 13 blocks of 2 houses, at £60 per block.

An additional block of 4 houses also let to above contractors at the scheduled prices applicable to above contracts.

KERESLEY.—For erection of stores, for the Lockhurst-lane, Foleshill, Co-operative Society, Ltd. Mr. S. J. Oldham, architect, Masonic Buildings, Coventry :—

E. Coleman, Coventry	£1,636 10
J. V. Jones, Ltd., Longford	1,605 0
*H. Clarke & Sons, Coventry	1,585 0
Pearson & Burden, Foleshill	1,554 13
Shilton & Co., Ltd., Foleshill	1,521 0

LEICESTER.—For work in regard to Hanbury's Charity, for Church Langton Educational Institute. Mr. Ernest G. Fowler, architect and surveyor, Grey Friars, Leicester :—

Chitham & Co., Ltd., Leicester	£5,226 0
H. V. Batchelor, Fleckney	5,107 0
T. Hickman & Sons, Market Harborough	5,036 0
*P. Rourke, Lutterworth	4,970 0
Haycock Bros., Great Glen	4,939 9
Garlick & Gamble, Kibworth	4,874 0

LONDON.—For structural alterations at Newington Institution, for the Southwark Board of Guardians :—

Trollope & Colls, Ltd.	£43,900
Dove Bros., Ltd.	43,870
Patman & Fotheringham	43,334
Higgs & Hill, Ltd., Lambeth	42,880
R. J. Truscott, Forest Gate	42,805
John Marsland & Sons, Ltd.	42,765
W. H. Gaze & Sons, Ltd., Kingston-on-Thames	41,881
J. & C. Bowyer, Ltd., Upper Norwood	40,794
Webster & Cannon, Aylesbury	40,198
Walker & Slater, Ltd., Derby	39,940
Prestage & Co.	38,773
*Castle Bros., Ltd., Borough	38,021

LONDON.—The following tenders have been accepted by the Education Committee of the L.C.C.:—

HEATING WORKS.

Provision of heating apparatus.

J. Combe & Son, Ltd.—Bellingham (Southern site), new infants' school (Lewisham, E.)	£919
H. J. Cash & Co., Ltd.—The Chaucer (Southwark, C.)	634
J. Sloper & Co., Ltd.—Bloomfield-road (Woolwich, E.)	690
Heywood & Bryett—Burghley-road (Central and Elementary) (St. Pancras, N.)	863

Erection of boiler flues.

Whitbys, Ltd.—Catherine-street (Shoreditch)	290
J. & C. Bowyer, Ltd.—Cranbrook-road (Bethnal Green, N.E.)	416
Triggs & Co.—Shillingston-street (Battersea, N.)	574
W. J. Dixon & Son—Goodrich-road (Dulwich)	666
Triggs & Co.—Surrey-lane (Battersea, N.)	664

Improvements to heating apparatus.

W. G. Cannon & Sons, Ltd.—The "Charles Dickens" (Southwark, N)	495
Dallow, Lambert & Co., Ltd.—Plassy-road (Lewisham, E.)	474

Installation of heating apparatus in connection with rebuilding of school.

Dallow, Lambert & Co., Ltd.—London Fields (Hackney, S.)	1,777

MINOR IMPROVEMENTS.

Provision of assistant teacher's room.

F. Cottrell, Ltd.—High-street, Stoke Newington (Hackney, N.)	£349 10

Formation of head teachers' rooms.

J. & C. Bowyer, Ltd.—Rochelle-street (Bethnal Green, S.W.)	194 0
F. Cottrell, Ltd.—Duncombe-road (Islington, N.)	396 0

Removal of stepping, etc.

J. & C. Bowyer, Ltd.—Gill-street (Limehouse)	117 10

Formation of head teacher's and staff rooms.

W. J. Dixon & Son—The "Millbank" (Abbey, Westminster)	270 0

Formation of head teachers' rooms.

H. S. Lee, Ltd.—Ethelburga-street (Battersea, N.)	133 0
John C. Mather—Thornhill-road (Islington, S.)	361 0
J. & C. Bowyer, Ltd.—Canal-road (Shoreditch)	220 0

Removal of stepping.

Townsend & Pearson, Ltd.—The "Hugh Myddelton" (Finsbury)	137 0

LONDON.—For erection of cottage in Church-street, for the Stoke Newington B.C. :—

*Stapleton & Sons £739

LONDON.—For erection of ladies' retiring room, &c., at Town Hall, for the Stoke Newington B.C. :—

*W. H. T. Kelland & Son £299

LONDON.—For rebuilding walls and providing rails and gates in Green-lanes, in connection with road widening, for the Stoke Newington B.C. :—

*Stapleton & Sons £435

LONDON.—For paving Argyll-place, for the Westminster C.C. :—

	Wood.	*Asphalte.*
Acme Flooring and Paving Co. (1904), Ltd.	£4,436 10 10	—
Alexander Thomson & Co. (London), Ltd.	5,604 7 6	5,057 10 0
G. J. Anderson	4,215 17 6	*3,625 5 0
French Asphalte Co., Ltd.	—	5,172 11 0
W. Griffiths & Co., Ltd.	4,792 8 4	—
Improved Wood Pavement Co., Ltd.	4,616 17 6	—
London Asphalte Co., Ltd.	—	4,880 15 5
Limmer and Trinidad Lake Asphalte Co., Ltd.	—	4,901 11 3
John Mowlem & Co., Ltd.	4,391 10 10	4,318 12 6
Val de Travers Asphalte Paving Co., Ltd.	—	4,793 5 5

LONDON.—For the supply of piping, valves, feed and other pumps, &c., required in connection with the new machinery and boilers at Abbey Mills pumping station, for the L.C.C. :—

The Sheepbridge Coal & Iron Co., Ltd.	£7,970 0
The Brightside Foundry & Engineering Co., Ltd.	7,749 0
Babcock & Wilcox, Ltd.	6,650 0
John Spencer, Ltd.	6,500 0
Aiton & Co. (alternative tender)	6,462 10
Aiton & Co.	6,057 10
*Dilworth & Carr, Ltd., Preston	5,926 0

LONDON.—For electric light installation at Millbank School, for the L.C.C. :—

*H. J. Cash & Co. £385

LONDON.—For the supply of two 30-in. centrifugal pumps required for the Isle of Dogs pumping station, for the L.C.C. :—

Drysdale & Co., Ltd.	£4,632
Gwynne's Engineering Co., Ltd.	4,500
Gwynne's Engineering Co., Ltd. (alternative tender)	4,350
The Rees Roturbo Manufacturing Co., Ltd.	4,210
Vickers, Ltd.	4,130
W. H. Allen, Sons & Co., Ltd.	4,100
John Cochrane (Barrhead), Ltd.	3,200
*Lilleshall Co., Ltd., Oakengates, Salop	3,118
Mirrlees Watson Co., Ltd., Glasgow (tender incomplete)	3,048

LONDON.—For construction of Lewisham Branch sewer, for the L.C.C. :—

S. Pearson & Son (Contracting Dept.), Ltd.	£343,473 17 5
Charles Brand & Son	312,070 18 10
James Byrom, Ltd.	273,062 13 10
Metropolitan Tunnel & Public Works Co., Ltd.	269,714 17 4
Kinnear, Moodie & Co.	268,569 3 9
Mitchell Bros., Sons & Co., Ltd.	265,146 8 4
William Muirhead, Macdonald, Wilson & Co., Ltd.	262,045 9 0
*Walter Scott & Middleton, Ltd., Victoria-street, S.W.	241,644 19 8

LONDON.—For the construction of Streatham-hill sewer, for the L.C.C. :—

Kinnear, Moodie & Co.	£76,251 10 0
Mitchell Bros., Sons & Co., Ltd.	58,855 18 0
William Muirhead, Macdonald, Wilson & Co., Ltd.	52,427 7 0
Thomas Muirhead & Co., Ltd	49,946 6 0
Daniel T. Jackson	46,928 8 5
*James Byrom, Ltd., Bury, Lancs	46,428 7 6

LONDON.—For work in connection with the extension of the Dalston-lane sub-station, for the Hackney B.C. :—

*L. H. & R. Roberts £4,139

LOOE.—For erection of farmhouse at Tencreek: Mr. G. H. Ivory, Engineer, Guildhall, Looe :—

*Evill Bros., West-lane, and *T. Bowden, West-lane (combining to carry out work) £1,305 9 3

LOUGHBOROUGH.—For providing and laying about 215 yds. of 15 in., 240 yds. of 12 in., and 230 yds. of 9 in. sanitary pipe sewers in Beacon-road, for the T.C. Mr. A. H. Walker, Borough Surveyor, Town Hall, Loughborough :—

T. Barker & Sons, Loughborough	£1,395
*W. Moss & Sons, Ltd., Loughborough	1,248

MARKHAM.—For construction of (1) electricity transformer station; (2) 9 in. diameter sewer, 330 yds. long, with manholes, &c., in the County-road. Mr. D. H. Price, surveyor, Fire Station Offices, Abergavenny :—

I.

John Charles & Son, Newport	£700 0 0
G. A. Brown, Ebbw Vale	655 5 7
H. Smith, Newport	650 0 0
Batten & Jones, Ebbw Vale	560 0 0
R. V. Evans, Pengam	533 0 0
T. Jones, Cefn fforest	520 10 0
J. E. Jones, Pontllanfraith	514 17 8
*Payne, Jones & Pope, Cefn fforest	471 4 0

II.

The Standard Contracting Co., Cardiff	540 0 0
Wm. Lewis, Brithdir	515 0 0
R. P. Evans, Pengam	482 0 0
T. Jones, Cefn fforest	473 0 0
Geo. A. Brown, Ebbw Vale	440 0 1
Batten & Jones, Ebbw Vale	400 0 0
J. Charles & Son, Newport	375 0 0
J. E. Jones, Pontllanfraith	374 5 0
W. Webb, Hengoed	355 0 0
*H. Smith, Newport	316 2 0

METROPOLITAN ASYLUMS BOARD.—The following tenders have been received by the Board for various works :—

Eastern Hospital—Repairs and painting to laundry—

Kind & Co., Leytonstone	£470 0 0
Wm. Simms, E.	455 10 0
A. H. Inns, Ltd., E.C.	397 0 0
J. Hocking & Co., Charlton	393 0 0
H. A. Thomas & Son, East Dulwich-grove	377 3 0
L. Kazak, Hampstead	360 0 0
Barnes & Co., Lewisham	305 0 0
*J. E. Ree, Leyton	275 16 0

South-Western Ambulance Station—Cleaning, painting and repairs—

H. A. Thomas & Son, S.E.	£164 16 0
D. C. Bowyer, Belvedere	148 12 6
Barnes & Co., Lewisham	148 0 0
W. H. Cooper & Son, Hammersmith-road, W.	147 0 0
C. H. Boyd & Son, Ltd., Craven-terrace, W.	147 0 0
A. H. Inns, Ltd., Devonshire-square, E.C.	139 0 0
*J. Hocking & Co., Charlton	130 0 0

Mead Works—Cleaning, painting and repairs—

Myall Bros., Ilford	£289 0 0
W. H. Cooper & Son, Hammersmith-road, W.	245 0 0
C. H. Boyd & Son, Ltd., Craven-terrace, W.	232 0 0
D. C. Bowyer, Heron Works, Belvedere	226 12 6
A. H. Inns, Ltd., Devonshire-square, E.C.	197 0 0
H. A. Thomas & Son, East Dulwich-grove, S.E.	190 15 0
Barnes & Co., Lewisham	179 0 0
J. Hocking & Co., Charlton	173 0 0
*J. S. Fenn, Woolwich	170 0 0

Mead Works—Formation of dust-proof cubicles in the paintshop, &c.—

Worman & Hussey, Holland Park, W.	£410 0 0
C. H. Boyd & Son, Ltd., Craven-terrace, W.	363 0 0
J. Darch, Ltd., Whitefriars-street, E.C.	340 0 0
Barnes & Co., Lewisham	330 0 0
A. H. Inns, Ltd., Devonshire-square, E.C.	323 0 0
A. H. Inns, Devonshire-square, *W. Walkerdine, Ltd., Kensington	259 0 0

Queen Mary's Hospital for Children—Forming foundation for new weighbridge—

R. Mansell, Croydon	464 0 0
A. A. Secrett, Ltd., Wallington	440 10 0
Barnes & Co., Lewisham	420 0 0
F. Potter, Sutton, Surrey	370 0 0
*Burnand & Pickett, Ltd., Wallington	344 0 0

OSSETT.—For excavators', concretors' and brickyers' work in connection with the erection of 47 houses, for the T.C. :—

*A. Lockwood & Sons..... £7,950

OSSETT.—For plumbers' work in connection with the erection of 47 houses, for the T.C. :—

*T. W. Clarke, Horbury..... £2,090 17

PORTH.—For erection of library and institute, for the Committee of the Institute of Lewis-Merthyr Colliery workmen. Mr. A. E. Trotman, architect, South Lea, Mount Pleasant, Porth, Rhondda :—

E. R. Evans & Bros., Ltd., Cardiff	£7,849	0	0
T. F. Howells, Caerphilly	7,500	0	0
Knox & Wells, Ltd., Cardiff	7,437	0	0
T. Broad & Co., Ltd., Great Malvern	6,419	0	0
*T. R. Jones, Abertridwr	6,292	11	2

PORTSMOUTH.—For alterations at 2B, Fratton road, Portsmouth. Mr. S. E. White, architect and surveyor, 22, Bristol-road, Southsea :—

Howe & Bishop	£314	0	0
M. Coghlan	292	5	1
G. Harmer	275	0	0
†John Lay & Co.	258	0	0

PORTSMOUTH.—For erection of shops, &c., at Grove-road. Mr. G. C. Vernon-Inkpen, architect and surveyor, 40, Commercial-road, Portsmouth. Quantities by architect :—

G. J. Davis & Son	£2,996
S. Salter	2,965
J. Croad	2,920
J. Crockerell	2,708
John Lay & Co.	2,669
F. Corke & Co.	2,599
*F. J. Privett	2,327

POULTON.—For making-up Fylde-road, for the U.D.C. :—

E. Taylor, Blackpool	£805	4	5
H. & J. Seed, Blackpool	704	14	0
*J. Farrell, Blackpool	650	5	1

REDCAR.—For erection of pavilion on foreshore, to seat 1,000 persons, for the T.C. Borough Engineer, Redcar :—

†W. Richardson & Co., Ltd., Darlington.

ST. FAITH'S.—For erection of eight houses at Salhouse, for the R.D.C. :—

*Stringer, Wroxham..... £2,795 14

SLEAFORD.—For water supply extensions in the parishes of Billinghay, Dogdyke, Walcot, Thorpe Tilney, Timberland, and Martin, for the R.D.C. :—

*J. T. Barnes & Son, Sleaford £1,558 15 5

SOYLAND.—For laying of main sewer from Kebroyd Bridge to the outfall works, for the Soyland U.D.C. :—

*Messrs. J. & R. A. Crawshaw..... £1,530

STANNINGLEY.—For erection of new steel bridges, for the Corporations of Manchester, Salford and Preston; also for erection of three new steel bridges in 14 spans of 60 ft. each, for the Indian State Railways :—

*Messrs. John Butler & Co., Ltd., Stanningley, near Leeds.

STOCKTON-ON-TEES.—Erection of shelter in Ropner Park, for the T.C. :—

*R. Johnson & Sons, Stockton.... £316 10

WAKEFIELD.—For erection of motor garages and super showrooms in Wood-street, for Messrs. Hylands, Ltd. Architect, W. Harold Watson, Wakefield :—

Main contract—

*A. C. Green, Wakefield.

Steelwork—

*S. Raynes, Wakefield.

WALSALL.—For erection of slipper baths and caretaker's house, at Bloxwich, for the T.C. :—

*Messrs. Letts & Airston, Walsall.... £1,850

WOOD GREEN.—For erection of house and shop. Mr. E. Meredith, architect, 7, Goodmayes-road, Goodmayes, Essex :—

Romain & Sons, Chadwell Heath £1,265
T. L. Hughes, Ilford 1,190
*F. & F. K. Dainton, London 1,165

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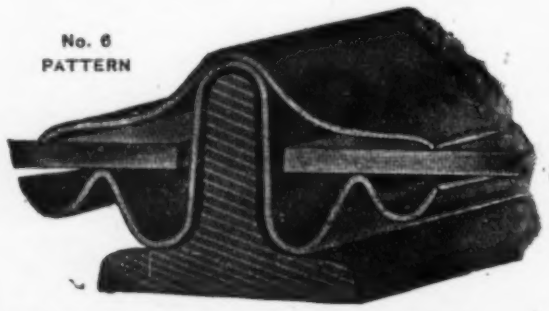
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